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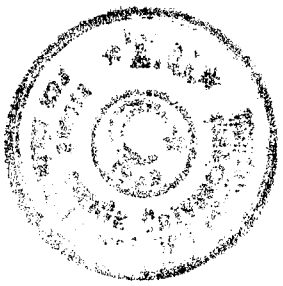

BASİT MESNETLİ VEREV PLAKLARDA ÖNGERİLME ETKİLERİ

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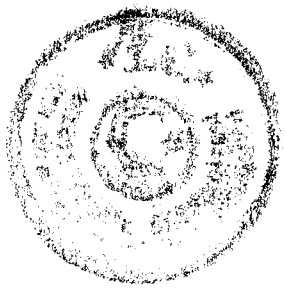


BASİT MESNETLİ VEREV PLAKLARDA ÖNGERİLME ETKİLERİ

ÖZET

Verev plaklar, özellikle büyük şehirlerin tarihi bölgelerinde, mimari ve tarihi çevre ile uyumdaki üstün kabiliyetleri ile, alt ve üst geçit köprülerinin çok başvurulan yapısal sistemleridir. Öngerilme, yapının narinliğini arttırarak, böyle çevrelerde, gabari sorunlarının aşılmasında büyük imkânlar sağlar. Bu çalışma, basit mesnetli öngerilmeli verev beton plaklarda öngerilme kablolarından ileri gelen kesit tesirlerinin hesabı ve çeşitli kablo düzenlerinin karşılaştırılması üzerinedir.

Çalışma beş bölümden oluşmaktadır.

Birinci bölümde; ince plakların hesabı ile ilgili hususlar hatırlatılmıştır. Öngerilme problemi, eğilme etkileri kadar levha etkileri bakımından da önemlidir; bu sebeple, levha(membran) etkileri de dikkate alınmıştır.

İkinci bölümde; problemin bir başka yönü, öngerilme kuvvetlerinin plak düzlemine dik yâni eğilme veren etkilerinin dikkate alınışı ve dış yüke dönüştürülmesi konusu, ilgili literatüre göre, açıklanmıştır.

Üçüncü bölümde; tablo değerlerinin hesaplanışı, kullanılışı ve değerlendirilmesi hususunda açıklamalar yapılmıştır.

Dördüncü bölümde; elde edilen sonuçlar özetlenmiş, karşılaştırmalar yapılmış ve sonuçlar tartışılmıştır.

Beşinci bölümde ise, söz konusu tablolar düzenlenmiştir. Her tabloya, kullanılışı ile ilgili anahtar formüller ve açıklayıcı şekiller yerleştirilmiştir.

Genel olarak, bu çalışma ile, basit mesnetli öngerilmeli beton verev plaklarda:

a) Öngerilme kablolarından ileri gelen kesit tesirlerinin kolay hesabı için tablolar oluşturulmuştur. Tablo değerleri kullanılmak suretiyle, kablolardan ileri gelen kesit tesirleri:

$$M_{11}^{ij} = m_{ij} P_j f_j (\bar{L}/L) \qquad (kNm/m)$$
$$M_{22}^{ij} = m_{22}^{ij} P_j f_j (\bar{L}/L) \qquad (kNm/m)$$
$$M_{12}^{ij} = m_{12}^{ij} P_j f_j (\bar{L}/L) \qquad (kNm/m)$$

$$S_{11}^{ij} = s_{11}^{ij} P_j \quad (\bar{B}/B) \qquad (kN/m)$$
$$S_{22}^{ij} = s_{22}^{ij} P_j \quad (\bar{B}/B) \qquad (kN/m)$$
$$S_{12}^{ij} = s_{12}^{ij} P_j \quad (\bar{B}/B) \qquad (kN/m)$$

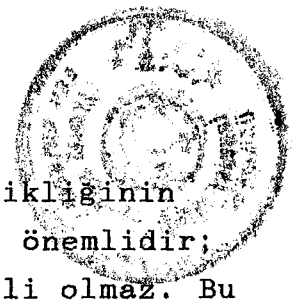
şeklinde hesaplanabilecektir. Bu formüllerde;

M^{ij} = bir j kablosundan i noktasında meydana gelecek momentleri;

S^{ij} = bir j kablosundan i noktasında meydana gelecek levha kuvvetlerini;

m^{ij} ve s^{ij} ise tablo değerlerini gösterir; biz bu çalışmada m^{ij} ve s^{ij} değerlerini "tesir sayıları" diye adlandırdık. Bunu yaparken, bu sayıların, esas itibariyle, "tesir çizgileri" ve "tesir yüzeyleri" kavramları ile yakınlığını gözettik. j, kablo veya kablo grubu sayısı olup üzerinde toplama yapılabilecektir; i, gözönüne alınan kesit numarasıdır.

Basit mesnetli de olsa plak problemi hiperstatiktir; membran(levha) kuvvetlerinin değerlerinin, yâni kablodan

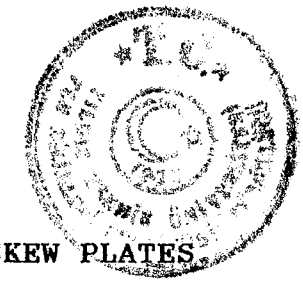


ileri gelen normal kuvvetlerin, hiperstatikliğinin etkisini de dikkate alarak, bulunabilmesi önemlidir; yalnız momentlerin hesaplanabilmesi yeterli olmaz. Bu sebeple, bu çalışmada, membran kuvvetlerinin hesabı da dikkate alınmıştır.

b) Kabloların, geniş açılı köşelerde yoğunlaştırılarak düzenlenmesi -ki bu çalışmada buna yelpaze şeklinde düzenleme denmiştir- ilgili literatürde tavsiye edilen hususlardandır[17]. Bu çalışmada, bu tür düzenlemenin etkisi de incelenmiş ve serbest kenarlara paralel kablo düzeni ile karşılaştırılması yapılmış; sonuçlar sayısal olarak ortaya konulmuştur. Kablo düzenlerinin verevlik ve B/L basıklığına bağlı incelemesi de yapılmıştır.

c) Özellikle, B/L basıklığı bir ve birden büyük plaklarda enine eğilme momentleri de nisbeten önem kazanır. Böylece, enine doğrultuda kablo düzenlenmesi de söz konusu olur. Bu sebeple, bu çalışmada, incelenen plakların basıklığı büyük olanlar için, enine kabloların etkileri, boyuna kablolar için dikkate alınan kesitlerde olmak üzere, incelenmiştir.

d) Literatürde plak düzlemine dik yükler için çok çalışma, tablo ve abak var ise de, tüm plak üzerine düzgün yayılı düşey yükler için moment hesabına imkân veren tablolar da düzenlenerek çalışmaya eklenmiştir. Böylece, plak kesit tesirlerinin hesabına bir bütünlük kazandırılması amaçlanmıştır.



PRESTRESSING EFFECTS IN THE SIMPLY SUPPORTED SKEW PLATES.

SUMMARY

The simply supported skew prestressed concrete plates are usualy and offenly used for the under or over passes in the urbain areas. With their simple forms, relatively thin thicknesses and skewnesses, espacially in the historical city zones, they easily solve the clearance and skewness problems. The present work has been realized on the section forces estimation due to the prestressing cables and on the study of some cables arrangements for such kind of plates.

The study is reported in five main sections:

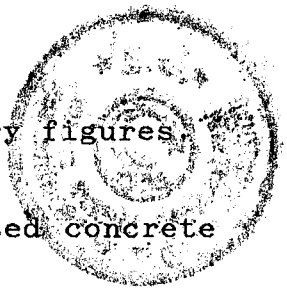
In the first section, the theoritical formulae and the analysis methods have been recalled for the thin plates. Membrane forces have been also considered since the studied problem is directly related to the prestress forces in plate plane.

In the second section, the formulae have been summarized on the prestress forces effects and the relating developing methodes have been recalled.

In the third section, the provided and tabulated values and their usage for the section forces calculation have been explained.

In the forth section, the obtained results have been discussed and compared with the studied types of plate.

And, in the last section, the calculation tables have been given in a systematical order; each table has been



enriched by the key formulations and explainatory figures.

In general, by this work, in the skew prestressed concrete plates:

(a) Some design tables have been derived for easy estimation of the internal forces due to the prestressing cables in two design directions; the study has been realized on the thin plates :

$$M_{11}^{ij} = m_{11}^{ij} P_j f_j \frac{\overline{L}}{L} \qquad (kNm/m)$$

$$M_{22}^{ij} = m_{22}^{ij} P_j f_j \frac{\overline{L}}{L} \qquad (kNm/m)$$

$$M_{12}^{ij} = m_{12}^{ij} P_j f_j \frac{\overline{L}}{L} \qquad (kNm/m)$$

$$S_{11}^{ij} = s_{11}^{ij} P_j \frac{\overline{B}}{B} \qquad (kN/m)$$

$$S_{22}^{ij} = s_{22}^{ij} P_j \frac{\overline{B}}{B} \qquad (kN/m)$$

$$S_{12}^{ij} = s_{12}^{ij} P_j \frac{\overline{B}}{B} \qquad (kN/m)$$

in which M^{ij} = the plate moments in the two ortogonal directions, and

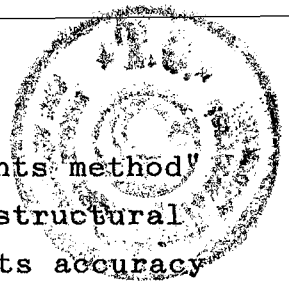
S^{ij} = the plate membrane forces ;

m^{ij} and s^{ij} are the derived table values;

We have called these table values as "influence coefficients" inspiring the "influence lines" and "influence surfaces" notions. j, is the cable or cables group number, so summing up is possible on it. i represents the considered section.

Since the problem is still structurally undetermined for the simply supported plates, without providing the membrane forces in case of prestressing cable load, the table values might be considered as a study incomplete and unsatisfactory; for this reason, the present work has been supported by the table values of s^{ij} to estimate also the membrane forces.

The deriving of the influence line coefficients, as a



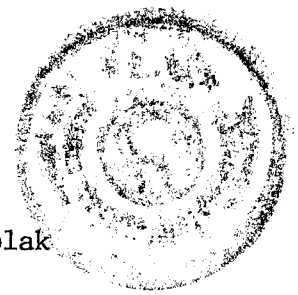
numerical analysis method the "finite elements method" together with its application on the SAP90 structural analysis programm has been prefered since its accuracy has been proved by a lot of references in practrice as well as in theoritical studies.

(b) The intensified cables in the large angle corners of the plates have been proposed and suggested in the relating literatures[17]; in the present work, the effects of such kind of cables arrangement have been also studied and shown the results in quantities and the comparisons have been realized with regard of the arrangement of parallel cables to the free edges; the effect of such kind of cables arrangement depends on the skewness and B/L ratio of the plan sizes of plate.

(c) Especially, for the plates of B/L equal or greater than unit, the internal forces in secondary direction (parallel to the support edges) are relatively getting importance, and so, the usage of cables in this direction gains also meaning in the design; for that reason, the table values are derived also for the cables parallel to the support edges for some of the studied types of plate in the considered sections in case of principal (parallel to the free -unsupported edges) direction cables.

(d) Without section forces due to the vertical (weight) loads, the tables would be incomplete even many methods of calculation for these internal forces are available in the relating literature; that is why, some tables have been also added to easily provide of moments due to the uniformly disributed vertical loads on whole plane of plate.

SEMBOLLER



A_c : Brüt beton enkesit alanı

$\bar{B}$: Tabloların hazırlanmasında kullanılan plak genişliği

D : Plak rijitliği

$[d]$: Düğüm noktaları parametreleri

E : Elastisite modülü

e_p : Kablo eksantrisitesi

f_j : Kablo veya kablo grubunun ortalama eksantrikliği

h : Plak kalınlığı

$\bar{L}$: Tabloların hazırlanmasında kullanılan plak açıklığı

M_x, M_y, M_{xy} : Moment bileşenleri

M_{11}, M_{22}, M_{12} : Moment bileşenleri (bu çalışmada $M_{11} = M_x$, $M_{22}=M_y$ $M_{12} = M_{xy}$)

m_{12}, m_{22}, m_{12} : Moment tesir sayıları

P_j : j kablosu veya kablo grubu öngerilme kuvveti

$p(x,y)$: Plak düşey yükü

q : Üniform eşdeğer kablo yükü

q_x, q_y : Kesme kuvveti bileşenleri

S_{11}, S_{22}, S_{12} : Levha (membran) kuvvetleri

s_{11}, s_{22}, s_{12} : Levha kuvveti tesir sayıları

u_v, v_z : Yer değiştirmeler

w : Plak deplasmanı, şekil fonksiyonu

ϵ_x, ϵ_y, γ_{xy} : Şekil değiştirme bileşenleri

σ_x, σ_y, σ_z : Gerilme bileşenleri

φ : 90^o -verevlik açısı

ν : Poisson oranı

θ : $M_{\bar{r}}$ veya $S_{\bar{r}}$ kuvvetlerinin yer aldığı düzlem normalinin x ekseni ile yaptığı açı

BÖLÜM 1

PLAK TEORİLERİ VE ÇÖZÜM METODLARINA KISA BİR BAKIŞ

1.1 TAŞIYICI SİSTEMLERİN SINIFLANDIRILMASI

Taşıyıcı sistem olarak kullanılan yapı elemanları, geometrileri ve davranışları dikkate alınarak, genelde, üç grupta incelenir[1]:

1) Çubuk sistemler,
2) Yüzeysel taşıyıcı sistemler,
3) Uzay taşıyıcı sistemler.

Çubuk sistemler; kolonlar, kirişler, çerçeveler, kemerler, kablolar, askı çubukları gibi iki boyutu doğrultusundaki şekil değiştirmeleri üçüncü boyutu doğrultusundaki şekil değiştirmeleri yanında pratik olarak ihmal edilebilen yapı elemanlarıyla teşkil edilen taşıyıcı sistemlerdir.

Yüzeysel taşıyıcı sistemler; kalınlığı diğer iki boyutu yanında çok küçük olan taşıyıcı sistemlerdir; plaklar, levhalar, kabuklar gibi yapı elemanları yüzeysel taşıyıcı sistemler sınıfına girer[2].

Uzay taşıyıcı sistemler ise; her bir doğrultudaki boyutu diğerleri yanında ihmal edilmeyen taşıyıcı elemanlardan oluşur.

Bu çalışmada; yüzeysel taşıyıcı sistemlerden plakların özel bir durumu olan **basit mesnetli verev plaklarda öngerilme etkilerinin incelenmiştir.** Çalışmanın yapı sistematiği içindeki yerini açıklayıcı olması bakımından, ilgili konularda kısa bir hatırlatma yararlı olacaktır.

1.2 PLAKLAR

1.2.0 GİRİŞ

Orta düzlemine dik doğrultuda yük taşıyan ve kalınlığı diğer iki boyutunun yanında küçük olan düzlem taşıyıcı sistemlere "plak" denir.

Plaklar, davranışlarına göre; *zarlar*, *esnek plaklar*, *ince plaklar* ve *kalın plaklar* şeklinde sınıflandırılarak incelenirler. **Öngerilme kablolarının etkisi, bu çalışmada, ince ve küçük sehimli verev plaklar için araştırılmıştır.**

1.2.1 İNCE VE KÜÇÜK SEHİMLİ PLAKLAR

İnce ve küçük sehimli plakların incelenmesinde yapılan kabuller kısaca şöyledir:

a) Plak kalınlığı diğer iki boyutuna göre çok küçüktür;

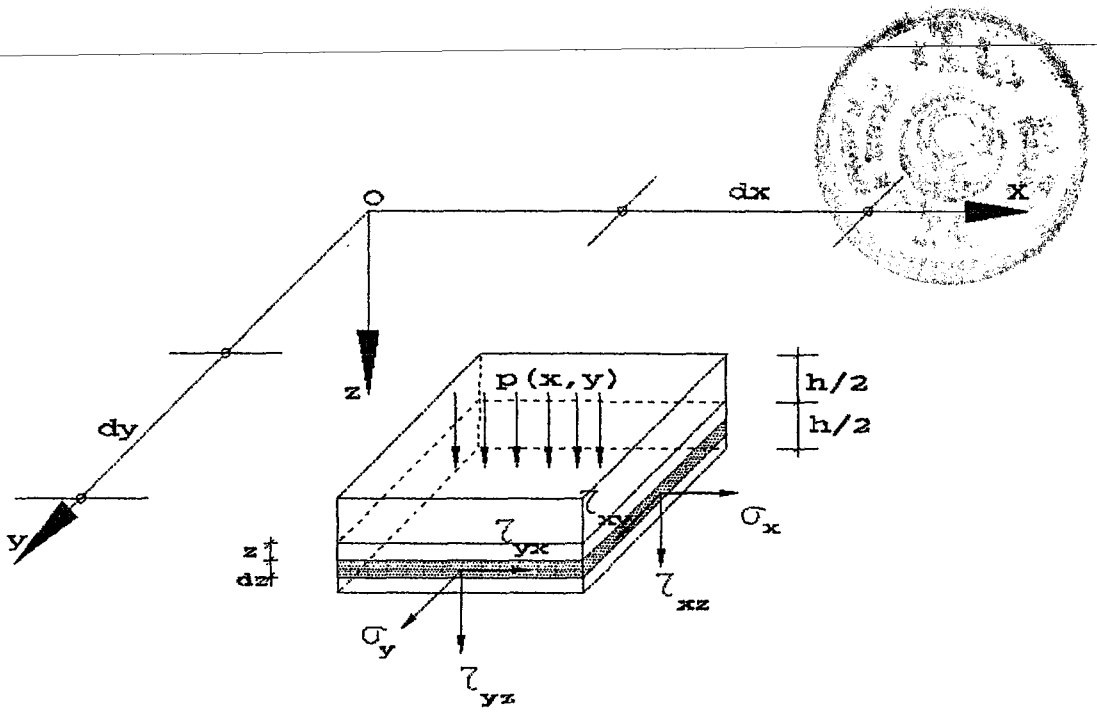
b) Plak sehimi, kalınlığı yanında çok küçüktür (w<<h);

c) Orta düzlemindeki deformasyonları (boy ve açı değişimleri) düzlemine dik doğrultudaki deformasyonuna göre çok küçüktür ve ince plak teorisinde ihmal edilirler;

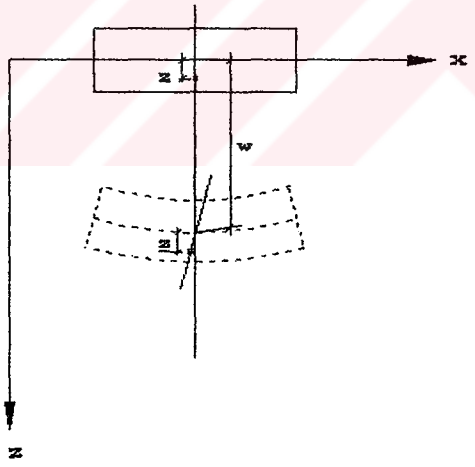
d) Orta düzlemin normali üzerinde bulunan bir nokta deformasyondan sonra da deforme orta düzlemin normali üzerinde bulunur (Kirchoff-Love hipotezi);

e)Plak orta düzlemine dik gerilmeler (σ_z) ve deformasyonlar (ϵ_z), çok küçük oldukları için, ihmal edilirler;

f) Malzeme homogen ve izotroptur;davranışı Hook kanununa uyar;



Şekil 1.1. Orta düzlemi oxy düzlemi ile çakışan plak diferansiyel elemanında gerilme bileşenleri



Şekil 1.2. Deformasyondan önce, deformasyondan sonra plak elemanı

Şekil 1.1'deki plak diferansiyel elemanı, gerilme bileşenleri ile gösterilmiştir; Şekil 1.2' de ise plak orta düzlemi ile

Oxz düzleminin ara kesitinin deformasyondan önceki ve deformasyondan sonraki durumu işaret edilmiştir. Bilindiği üzere, çok küçük açılar için,

$$\tan\varphi \approx \sin\varphi \approx \varphi \qquad \cos\varphi \approx 1 \tag{1.1}$$

alınabilir.

$$u_z = -z\frac{\partial w}{\partial x} \qquad v_z = -z\frac{\partial w}{\partial y} \tag{1.2}$$

yer değiştirme bileşenlerine bağlı olarak şekil değiştirme bileşenleri:

$$\varepsilon_x = \frac{\partial u_z}{\partial x} = -z\frac{\partial^2 w}{\partial x^2} \tag{1.3a}$$

$$\varepsilon_y = \frac{\partial v_z}{\partial y} = -z\frac{\partial^2 w}{\partial y^2} \tag{1.3b}$$

$$\gamma_{xy} = \frac{\partial u_z}{\partial y} + \frac{\partial v_z}{\partial x} = -2z\frac{\partial^2 w}{\partial x \partial y} \tag{1.3c}$$

ve gerilme bileşenleri:

$$\sigma_x = \frac{E}{1-\nu^2}(\varepsilon_x + \nu\,\varepsilon_y) = -\frac{E\,z}{1-\nu^2}\left(\frac{\partial^2 w}{\partial x^2} + \nu\frac{\partial^2 w}{\partial y^2}\right) \quad (1.4a)$$

$$\sigma_y = \frac{E}{1-\nu^2}(\varepsilon_y + \nu\varepsilon_x) = -\frac{E\,z}{1-\nu^2}\left(\frac{\partial^2 w}{\partial y^2} + \nu\frac{\partial^2 w}{\partial x^2}\right) \quad (1.4b)$$

$$\tau_{xy} = \tau_{yx} = G\,\gamma_{xy} = -\frac{E\,z}{1+\nu}\frac{\partial^2 w}{\partial x\,\partial y} \quad (1.4c)$$

dir.

Yukardaki formüllerden de görüldüğü gibi; normal gerilme bileşenleri, orta düzlemine olan z mesafesiyle orantılı olup plak kalınlığı boyunca lineer olarak değişir.

Bir plakta (dx.dy.h) diferansiyel hacim elemanının dengesi incelendiğinde τ_{xz} , τ_{yz} kayma gerilmelerinin de bulunduğu ve bu gerilmelerin $z = \pm h/2$ yüzeylerinde, denge şartlarından dolayı sıfıra eşit olduğu görülür. τ_{xz} , τ_{yz} gerilmeleri, dikdörtgen kesitli çubuklarda olduğu gibi plak kalınlığı boyunca parabolik dağılım gösterir.

Kesitteki σ_x ve σ_y normal gerilmelerinin bileşkesi olan kesit kuvvetleri M_x ve M_y eğilme momentleri; $\tau_{xy} = \tau_{yx}$ kayma gerilmelerinin bileşkesi olan kesit kuvvetleri ise M_{xy} burulma momenti olarak isimlendirilir.

Şekil 1.1 'deki diferansiyel hacim elemanının denge şartlarından:

$$M_x = -\frac{E}{1-\nu^2}\left(\frac{\partial^2 w}{\partial x^2} + \nu\frac{\partial^2 w}{\partial y^2}\right)\int_{-h/2}^{h/2} z^2\,dz \quad (1.5a)$$

$$M_y = -\frac{E}{1-\nu^2}\left(\frac{\partial^2 w}{\partial y^2} + \nu\frac{\partial^2 w}{\partial x^2}\right)\int_{-h/2}^{h/2} z^2\,dz \qquad (1.5b)$$

$$M_{xy} = -\frac{E}{1+\nu}\left(\frac{\partial^2 w}{\partial x\,\partial y}\right)\int_{-h/2}^{h/2} z^2\,dz \qquad (1.5c)$$

bulunur.

$[Eh^3/12(1-\nu^2)]$ çarpanına **"plak eğilme rijitliği"** ya da **"plak rijitliği"** denir. Plak rijitliği D ile gösterilerek, moment bileşenleri topluca şöyle yazılabilir:

$$M_x = -D\left(\frac{\partial^2 w}{\partial x^2} + \nu\frac{\partial^2 w}{\partial y^2}\right) \qquad (1.6a)$$

$$M_y = -D\left(\frac{\partial^2 w}{\partial y^2} + \nu\frac{\partial^2 w}{\partial x^2}\right) \qquad (1.6b)$$

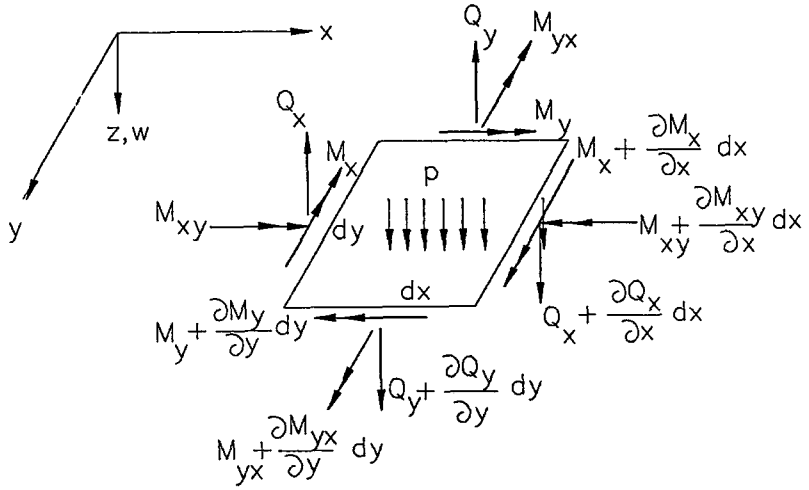
$$M_{xy} = -D(1-\nu)\frac{\partial^2 w}{\partial x\,\partial y} \qquad (1.6c)$$

Benzer şekilde q_x, q_y kesme kuvveti bileşenleri τ_{xz}, τ_{yz} kayma gerilmelerinin bileşkesi olarak:

$$q_x = \int_{-h/2}^{h/2} \tau_{xz}\,dz \qquad (1.7a)$$

$$q_y = \int_{-h/2}^{h/2} \tau_{yz}\,dz \qquad (1.7b)$$

integralleriyle ; ya da, plak ortadüzleminin w yerdeğiştirmelerinin bir fonksiyonu olarak ifade edilebilir. Bunun için, kesitlerindeki iç kuvvet bileşenleri ile gösterilen plak diferansiyel elemanında denge denklemleri yazılır ve gerekli kısaltmalar yapılır ise;



Şekil 1.3 Plak diferansiyel elemanı kesitlerinde iç kuvvet bileşenleri

$$q_x = \frac{\partial M_x}{\partial x} + \frac{\partial M_{yx}}{\partial y} \qquad (1.8a)$$

$$q_y = \frac{\partial M_y}{\partial y} + \frac{\partial M_{xy}}{\partial x} \qquad (1.8b)$$

ve, (1.6) ifadeleri son formüllerde yerlerine konularak, kesme kuvvetleri için,

$$q_x = - D \frac{\partial}{\partial x} \left(\frac{\partial^2 w}{\partial x^2} + \frac{\partial^2 w}{\partial y^2} \right) \qquad (1.9a)$$

$$q_y = - D \frac{\partial}{\partial y} \left(\frac{\partial^2 w}{\partial x^2} + \frac{\partial^2 w}{\partial y^2} \right) \qquad (1.9b)$$

bulunur.

Aynı plak diferansiyel elemanı için z doğrultusundaki denge şartı ile:

$$p\,dx\,dy + \frac{\partial q_x}{\partial x}\,dx\,dy + \frac{\partial q_y}{\partial y}\,dy\,dx = 0 \qquad (1.10a)$$

$$p + \frac{\partial q_x}{\partial x} + \frac{\partial q_y}{\partial y} = 0 \qquad (1.10b)$$

ve q_x,ve q_y yerine (1.9) daki değerleri konularak;

$$p - D\left(\frac{\partial^4 w}{\partial x^4} + \frac{\partial^4 w}{\partial x^2\,\partial y^2} + \frac{\partial^4 w}{\partial y^2\,\partial x^2} + \frac{\partial^4 w}{\partial y^4}\right) = 0 \qquad (1.11a)$$

ya da,

$$\frac{\partial^4 w}{\partial x^4} + 2\,\frac{\partial^4 w}{\partial x^2\,\partial y^2} + \frac{\partial^4 w}{\partial y^4} = \frac{p}{D} \qquad (1.11b)$$

ifadesine ulaşılır; buna plak teorisinde kısaca "**plak denklemi**" denir.

1.2.2 İNCE PLAKLARIN ÇÖZÜM YÖNTEMLERİ

" **Plak denklemi** " denilen lineer, kısmî türevli, dördüncü mertebeden ve ikinci taraflı (1.11b) denkleminin; yükleme ve mesnetlemeden ileri gelen bütün sınır şartlarını dikkate alarak yapılacak entegrasyonuyla, plağın kesin çözümü elde edilebilir. Nevarki, kesin çözümün elde edilmesinde karşılaşılan matematik güçlükler nedeniyle, çoğu kere, kesin çözümlere yakın sonuçlar veren yaklaşık çözümlerle yetinilmektedir.

1.2.2.1 Yaklaşık Çözüm Yöntemleri

Yaklaşık çözüm yöntemlerinde, genelde, plak elastik yüzeyine uygun,

$$w=\alpha_1 f_1(x,y) + \alpha_2 f_2(x,y) + \alpha_3 f_3(x,y)+.....+ \alpha_n f_n(x,y) \quad (1.12)$$

gibi bir şekil fonksiyonu şeçilmek suretiyle çözüm aranır.

$\alpha_1, \alpha_2, \alpha_3,.....\alpha_n$ sabitlerinin hesabında;

a) Hataların karelerinin toplamı minimum olacak şekilde bir yol izlenebilir; bu taktirde, yönteme, " **En küçük kareler yöntemi**" denir;

b) Potansiyel enerjinin minimum olması prensibinden yararlanılabilir; bu defa yöntem, " **Ritz yöntemi**" adını alır;

c) Ya da, virtüel yerdeğişimi prensibi kullanılabilir;bu defa yönteme "**Galerkin yöntemi**" denir[2] .

1.2.2.2 Fourier Serileri ile Çözüm

Bu yöntemde, plak üzerindeki **p(x,y)** yayılı yükünün ve plak düşey deplasmanı **w(x,y)**'nin, tek ya da çift Fourier serisine açılmak suretiyle elde edilen değerleri plak diferansiyel denkleminde yerine konularak çözüm aranır[1,2] .

1.2.2.3 Nümerik Yöntemlerle Çözüm

Nümerik çözüm yöntemleri başlıca iki esasa dayanır: **Sonlu farklar** ve **sonlu elemanlar** kullanmak.

- **Sonlu Farklar Yöntemi:**

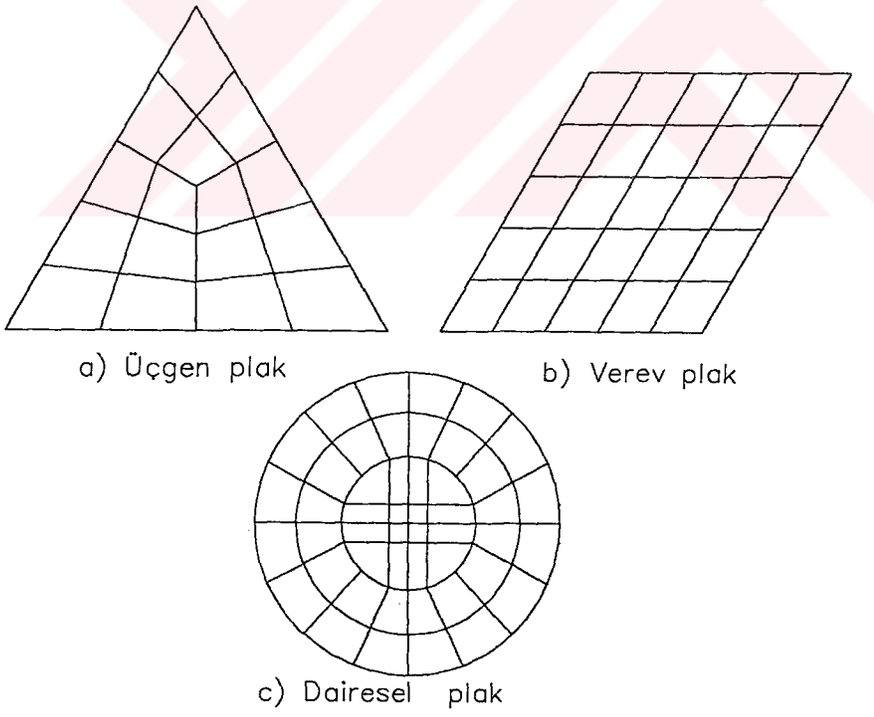
Bu yöntemde, plak diferansiyel denklemindeki türevler sonlu farklarla ifade edilir. Çözümün hassasiyeti doğrudan sonlu fark boyutuna bağlı olmakla birlikte sonlu eleman yöntemlerine oranla yine de düşüktür.

- **Sonlu Elemanlar Yöntemi:**

Nümerik çözüm yöntemleri içinde sonlu elemanlar yöntemi (finite elements method), en yaygın kullanılanıdır; bu çalışmada da çözüm yöntemi olarak kullanılmıştır. Bu sebeple, bu metodun ince plaklarda kullanılışına dair esaslar aşağıda ayrıca ele alınmıştır.

1.2.2.4 Sonlu Elemanlar Yöntemi

Çözümü düşünülen plak, çözümde aranan hassasiyete de bağlı olarak, üçgen veya dörtgen hayali (fiktif) elemanlara ayrılır. Elemanların şekli:



Şekil 1.4 Dörtgen elemanlarla sonlu elemanlar ağı (mesh) oluşturmayla ilgili örnekler

- Plağın kendi şekline,

- Sınırlarına,
- Bölge içindeki ve sınırlarındaki süreksizliklerine bağlı olarak seçilir; Şekil 1.4' de dörtgen elemanlarla modellemeye ait üç örnek çizilmiştir.

Elemanlar; sınır şartları ve rijitlikleri itibariyle kendi içerisinde mümkün mertebe üniform olmalıdır. Elemanların birleştiği noktalara düğüm noktaları denir.

Bilinmeyenler iç kuvvetler ya da deplasmanlardır; deplasmanların bilinmeyen olarak alınması yaygın uygulamadır[3]; buna **direkt deplasman yöntemi** denir. Düğüm noktalarındaki w(x,y) çökme, θ_x ve θ_y dönme değerlerine **düğüm noktası parametreleri** denir. Bir elemanın düğüm parametrelerinin toplamı ise **eleman serbestlik derecesi'ni** oluşturur. Eleman serbestlik derecesi sayısıyla eşit sayıda terime sahip, deplasman fonksiyonunu temsil edecek tarzda bir şekil fonksiyonu seçilir. Eleman boyutları ne kadar küçülürse küçülsün, fonksiyonun ve varsa türevlerinin karakterlerinin bozulmaması gerekir; bir başka deyişle, şekil fonksiyonu, " **bütünlük şartı** " ve , elemanların sınırlarında, en yüksek mertebeli türevin bir alt mertebesinde sürekliliği, yani " uygunluk şartı " nı sağlamalıdır.

$$w=a_1 + a_2 x + a_3 y + a_4 x^2 + a_5 x y + a_6 y^2 + a_7 x^3 + a_8 x^2 y + a_9 y^2 x + a_{10} y^3 .....$$

Şekil fonksiyonu yardımı ile:

ı. Bünye denklemleri (gerilme- deformasyon bağıntıları);
ıı. Süreklilik şartları;
ııı. Denge denklemleri, ki bunlar da:
  a- Düğüm noktası denge denklemleri,
  b- Eleman denge denklemleri, olarak iki grupta sayılır;
ıv. Sınır şartları

sağlanacak şekilde eleman rijitlik ve yük matrisleri [3,4]

yazılır. Bunların sistem rijitlik ve yük matrislerine dönüştürülmesi yapılarak, elde edilen denklem sistemi çözülür. Böylece, sonuçta, kurulan sonlu elemanlar modelinin bilinmeyen deplasmanları ve kesit tesirleri bulunur[5,6,7].

Bilinmeyen olarak tanımlanan deplasman ya da kesit tesirleri; bilinmeyenlerin tanımına uygun olarak, kullanılması uygun hiperstatik sistem çözüm yöntemini de belirler. Çözüm yöntemi, örneğin, **Kuvvet yöntemi**, **Deplasman yöntemi** ya da **Başlangıç değerleri yöntemlerinden** biri olur.
Burada, Deplasman yöntemi kullanılmıştır.

Sonlu elemanlarla yapısal çözümlemede izlenilen işlem sırası, özetle, şöyledir:

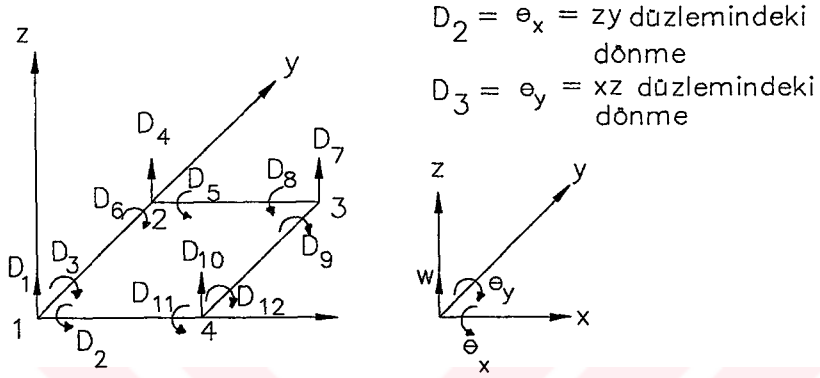
- Çözümü istenen sistem, kendi şekline, sınır eğri ve yüzeyine, bölge içindeki ve sınırdaki süreksizliklerine uygun olarak sonlu elemanlara ayrılır. Mesnetlenme ve sınır şartlarının, eleman sınırında üniform olmasına dikkat edilir. Sonlu elemanların boyutları birbiriyle orantılı olmalıdır.

- Elemanların birleştiği noktaların, düğüm noktaları olması yanında, bâzan, hassasiyeti artırmak amacıyla, elemanın kenar ortalarında da düğüm noktaları tariflenebilir. Bunun doğuracağı zorlukları önlemek açısından, eğer kullanılan programın ve bilgisayarın kapasitesi yeterli ise, eleman boyutları küçültülüp, düğüm noktası sayısı artırılarak da hassasiyet arttırılabilir.

- Düğüm noktaları numaraları ve düğüm parametreleri aynı kurala uyularak isimlendirilir. Sistem üzerindeki düğüm nokta numaralarının, düğüm nokta numaraları arasındaki fark minumum olacak şekilde verilmesi uygundur.

- Sistemde düğüm nokta numaraları takip edilerek ve elemanda

parametre numaralama sırasına uyularak sistem düğüm parametreleri de numaralandırılır (Şekil 1.5).



Şekil 1.5 Deplasman parametrelerinin numaralandırılması

- Eleman serbestlik derecesi sayısında terime sahip, uygunluk ve bütünlük şartlarını sağlayacak polinom seçilir. Örnekse, Şekil 1.5'deki eleman için, şekil fonksiyonu olarak:

$$w=\alpha_1 + \alpha_2 x + \alpha_3 y + \alpha_4 x^2 + \alpha_5 xy + \alpha_6 y^2 + \alpha_7 x^3 + \alpha_8 x^2 y + \alpha_9 xy^2 + \alpha_{10} y^3 + \alpha_{11} x^3 y + \alpha_{12} xy^3$$

polinomu yazılabilir.

- Polinomda, eleman serbestlik derecesi sayısından fazla sayıda terim varsa, polinomun simetrisini bozmadan terim sayısı azaltılabilir. Polinom simetrikse, eksen takımının lineer transformasyonu esnasında şekli değişmez; buna "geometrik izotropi" ye sahip olma özelliği denir[7].

- Her eleman için yazılan denklemlerden şekil fonksiyonunun $\alpha_1, \alpha_2, \ldots \alpha_n$ katsayıları bulunur.

$$u = \begin{bmatrix} w \\ \frac{\partial w}{\partial y} \\ -\frac{\partial w}{\partial x} \end{bmatrix}$$

olmak üzere:

$$u=[A][\alpha]$$

dır.

[A] : Katsayılar matrisi,

[α] : Eleman serbestlik derecesiyle eşit sayıdaki bilinmeyen katsayılar,

$[d]=\begin{bmatrix} [d]_1 \\ [d]_2 \\ [d]_3 \\ [d]_4 \end{bmatrix}$ ile düğüm noktaları parametreleri

gösterilirse,

- Şekil fonksiyonunda eleman düğüm noktalarının koordinatları konularak [d] kare matrisi çıkartılır:

$$[d]=[A]_d\ [\alpha]$$

Her iki taraf $[A]_d^{-1}$ ile soldan çarpılırsa;

$$[\alpha]=[A]_d^{-1}[d]$$

$$u=[A][\alpha]$$

$$u=[A][A]_d^{-1}[d]$$

bulunur. Şekil değiştirmenin uç deplasmanlarına bağlı ifadesinden,

$$[\epsilon]=[\partial][u]$$

$$[\epsilon]=[\partial][A][A]_d^{-1}[d]$$

yazılır.İç kuvvet - deformasyon bağıntısından hareketle:

$$[\sigma]=[D][\epsilon]$$

$$[\sigma]=\begin{bmatrix}M_x\\M_y\\M_{xy}\end{bmatrix}=[D]\,[\varepsilon]=\frac{Eh^3}{12(1-\nu^2)}\begin{bmatrix}1 & \nu & 0\\ \nu & 1 & 0\\ 0 & 0 & \frac{1-\nu}{2}\end{bmatrix}[\varepsilon]$$

$$[\sigma]=\begin{bmatrix}M_x\\M_y\\M_{xy}\end{bmatrix}=\frac{Eh^3}{12(1-\nu^2)}\begin{bmatrix}1 & \nu & 0\\ \nu & 1 & 0\\ 0 & 0 & \frac{1-\nu}{2}\end{bmatrix}\begin{bmatrix}-\frac{\partial^2 w}{\partial x^2}\\-\frac{\partial^2 w}{\partial y^2}\\-2\frac{\partial^2 w}{\partial x\partial y}\end{bmatrix}$$

iç kuvvet ifadeleri bulunur.

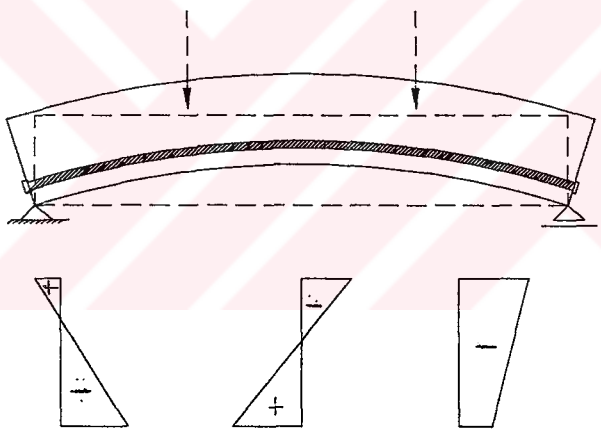
Çözümde, yeterli küçüklükte sonlu elemanlar kullanılmamışsa, bir düğüm noktasında birleşen elemanların iç kuvvetleri arasında önemli büyüklükte fark çıkabilir. Bu durumda, hesap kesit tesiri olarak bu değerlerin aritmetik ortalaması alınmalıdır.

BÖLÜM 2

PLAKLARDA ÖNGERİLME

2.0 GİRİŞ

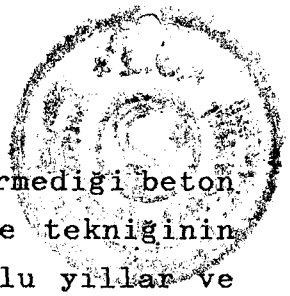
Öngerilme, bu çalışmada, bir diğer parametredir; bu sebeple, öngerilme tekniği ve plaklardaki uygulanışı hakkında kısa bir açıklama yararlı olacaktır.



a) Öngerilmeden, b) Eğilmeden, c) Öngerilme+Eğilmeden oluşan normal gerilmeler

Şekil 2.1 Öngerilmeli bir elemanda eğilme gerilmeleri

Öngerilme; yapıda, hayatı boyunca meydana gelmesi beklenen iç kuvvetleri, aktif olarak, malzeme mukavemetleri içerisine çekmek üzere, yapım esnasında yapıya uygulanan, bir çeşit kontrollü ekstra yüklemedir. İkinci Dünya Savaşı'ndan sonra tekniği hızla gelişmiş, uygulama alanı yaygınlaşmıştır. İlk başarılı örneklerini, genellikle, kirişli köprülerde gördüğümüz öngerilme tekniğinin plaklarda kullanılışı ise



nisbeten yenidir. Bugün, öngerilme tekniğinin girmediği beton yapı türü, hemen hemen, yok gibidir. Öngerilme tekniğinin isim babası ve ilk başarılı uygulayıcısı 1930 lu yıllar ve sonrasında Fransız Eugene Freyssinet'dir. Sonraki yıllarda çalışmaları ile, Guyon[8], Leonhardt[9], Hampe[10], Lin[11], Homberg[12], Celâsun[13], Khacaturian[14], Özden[15], Collins[16], Bilge[18]... gibi pek çok bilim adamının büyük katkıları olmuştur.

Plak sistemler; kalıp ve yapım kolaylığı, narin ve estetik oluşları, mesnetlerinin yerleştirilmesindeki kolaylıklar, verevlik ve benzeri zorunlu geometrilere kolayca adaptasyonu gibi pekçok sebeple; özellikle şehir içi kavşak yapılarında aranan ve sıkça başvurulan çözümlerdir.

Öngerilme, plak sistemlerin sahip olduğu yukarda sayılan avantajlarını arttırır; daha narin ve estetik uygulamalara imkân verir, gabari sorunlarını çözümlemede vazgeçilmez bir yapı tekniğidir.

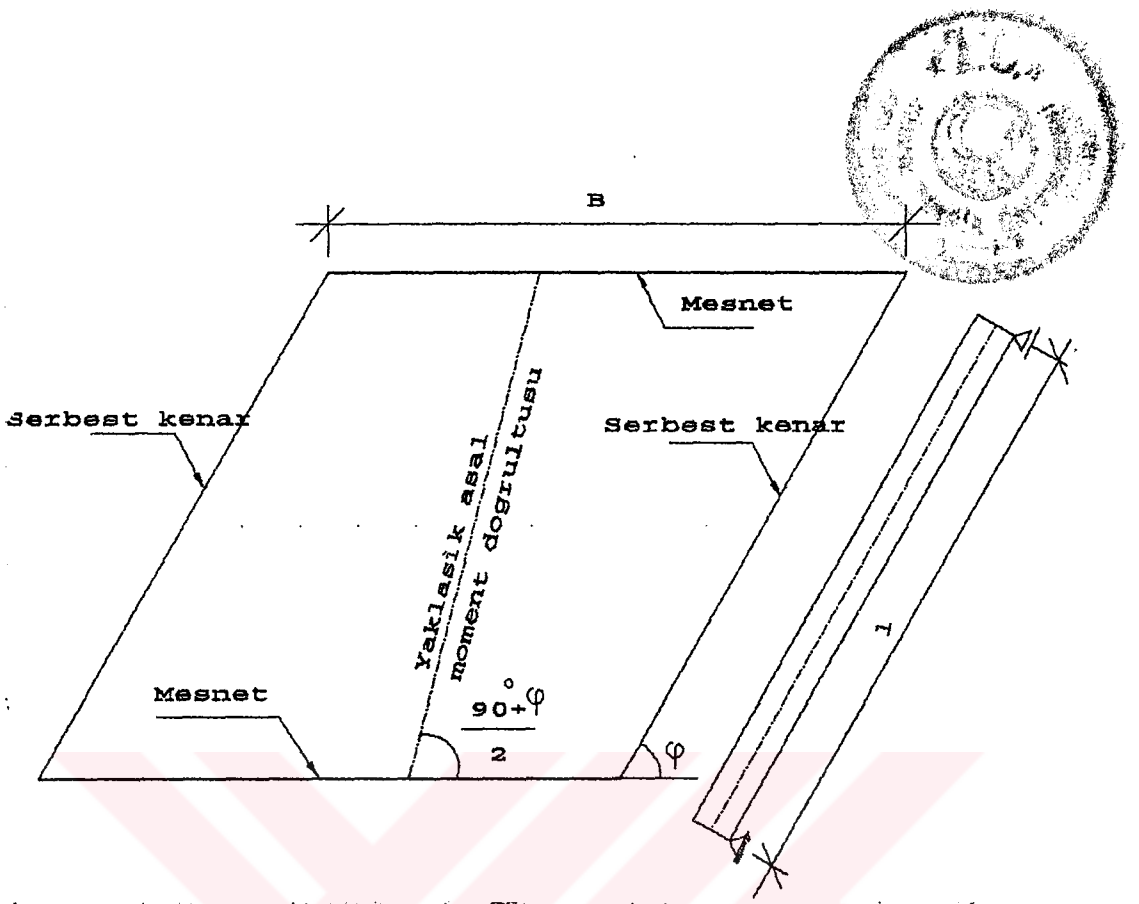
İçten kablolu öngerilme tekniğinde, özellikle plaklarda, kablo kuvvetleri stabilite sorunu oluşturmaz[4].

2.1 TEK AÇIKLIKLI VEREV PLAKLARDA ÖNGERİLME KABLOLARININ DÜZENLENMESİ

Bilindiği üzere, verev kavşaklar için öngerilmeli dolu (masif) plakların kullanılması tercih edilen çözümlerdendir.

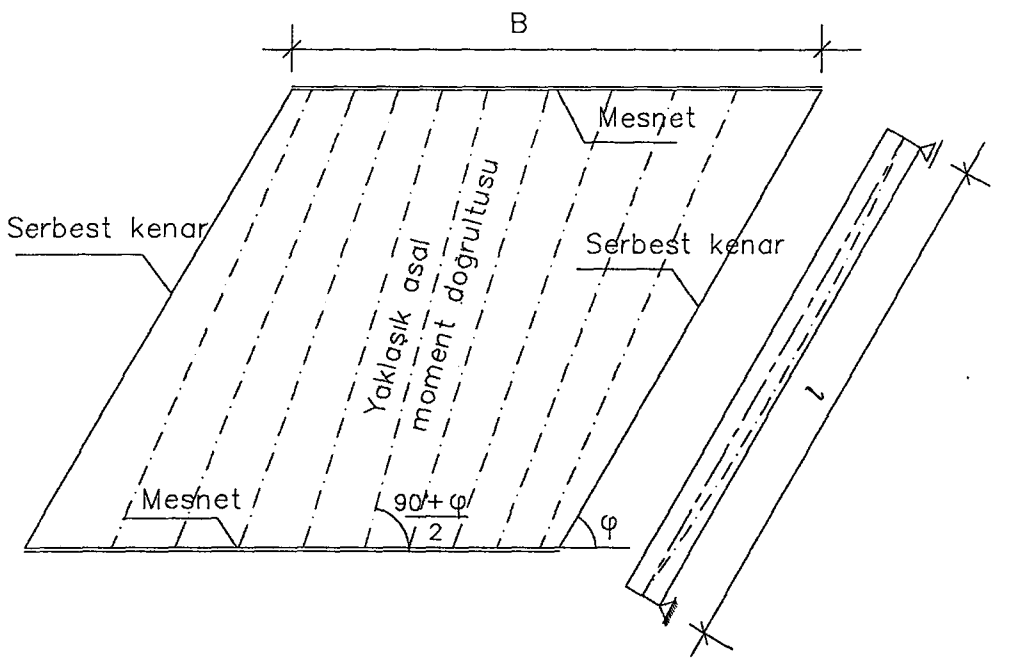
Öngerilme kablolarının uygun şekilde düzenlenmesi konusu, bu çalışmanın da araştırdığı ve irdelemek istediği bir konu olması nedeni ile, literatürde yer aldığı kadarı ile aşağıda özetlenmiştir.

Homberg, öngerilme kablolarının, açıklık ortasında asal



Şekil 2.2 Basit mesnetli verev plak

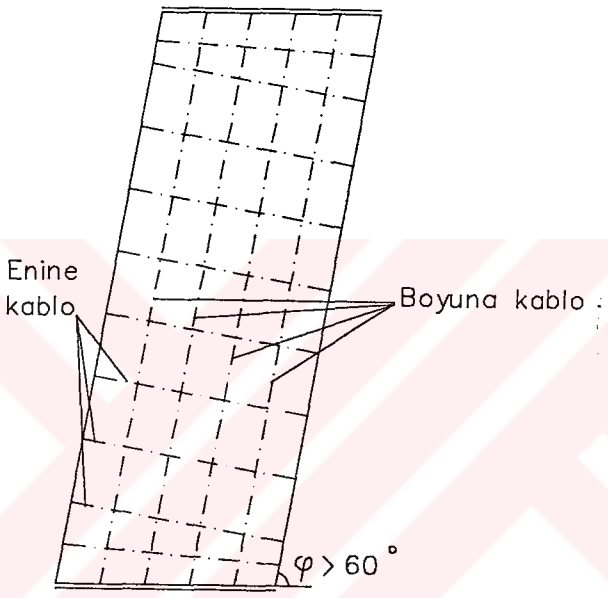
momentler doğrultularına yakın, mesnetlerde ise geniş açılı köşelerde yoğunlaşacak şekilde düzenlenmesinin uygun olacağını belirtmektedir (Şekil 2.3).



Şekil 2.3 Tavsiye edilen öngerilme kablo düzeni[10]

Leonhardt[17] , verevlik açısına ve plak kenar oranlarına bağlı olarak şu tavsiyelerde bulunmaktadır:

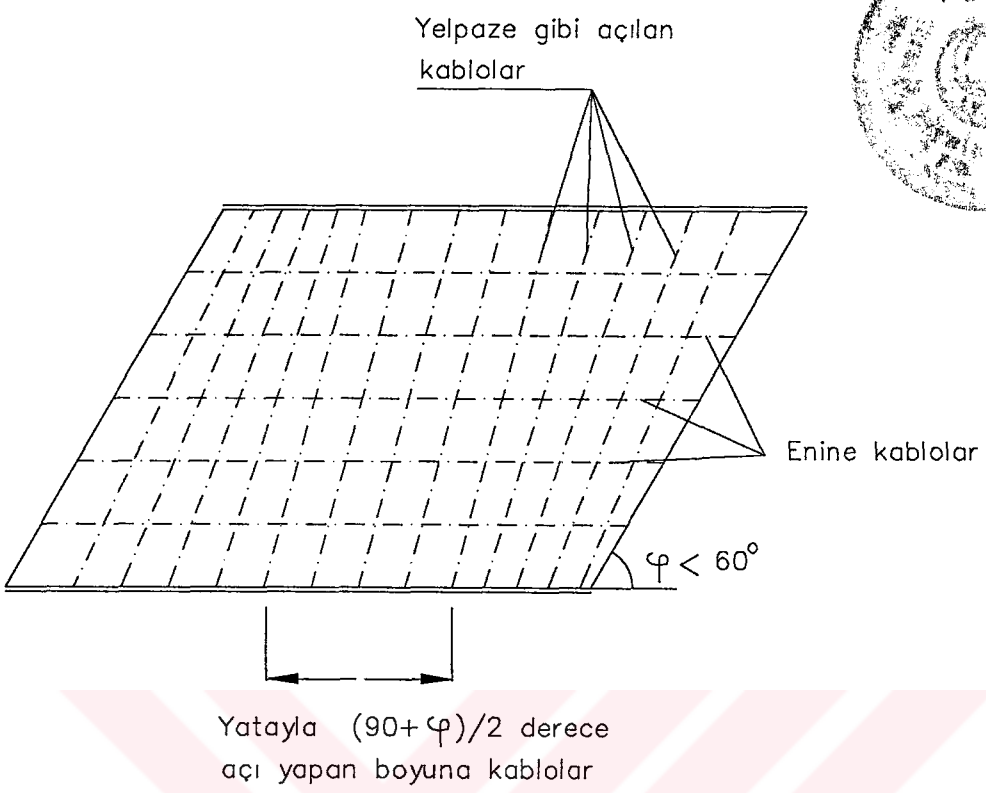
- Dar plaklarda boyuna yöndeki öngerilme kabloları serbest kenarlara paralel, enine yöndeki öngerilme kabloları serbest kenarlara dik ve geniş açılı köşelerde yelpaze gibi açılarak düzenlenmelidir (Şekil 2.4);



Şekil 2.4 Dar plaklarda tavsiye edilen kablo düzeni[17]

- Verevlik açısı 60° den büyük ve kenar boyları birbirine yakın plaklarda, boyuna ve enine yöndeki öngerilme kabloları kenarlara paralel düzenlenmelidir;

- Verevlik açısı 60° den küçük ve nisbeten geniş plaklar için ise, Şekil 2.5'deki gibi bir kablo düzeni önerilmiştir.



Şekil 2.5 Geniş plaklarda önerilen kablo düzeni[17]

2.2 ÖNGERİLMEDEN İLERİ GELEN KESİT TESİRLERİNİN HESABI -EŞDEĞER YÜK YÖNTEMİ-

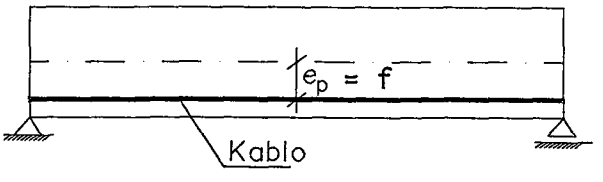
Plaklar, bilindiği üzere, mesnet şartları ne olursa olsun, hiperstatik yapılardır. Ağırlık yükleri gibi, öngerilme kuvvetleri de yapıda hiperstatik kesit tesirleri meydana getirir; basit mesnetli de olsa, bu yüzden, tek açıklıklı plakların hiperstatik kesit tesirleri olacaktır. Öte yandan, inceleme konusu plakların öngerilmeli olması sebebi ile, plak problemi, aynı zamanda bir levha problemi oluşturur. Levha (membran) kuvvetleri de yine hiperstatik büyüklüklerdir; bu özel problemde, bunların hesabı gözardı edilemez.

Öngerilme kablosu yükünden ileri gelen iç kuvvetlerin hesabında, **"Eşdeğer yük yöntemi"** sıkça kullanılan ve kullanılışlı olduğu kanıtlanmış bir yöntemdir[14].

Basit mesnetli bir kirişte, düz (doğru eksenli) kablo halinde herhangi bir kesitte, kablodan ileri gelen kesit tesirleri (Şekil 2.6):

N=P (=öngerilme kuvveti) eksenel normal kuvveti ile,

$M=P.e_p$ (=öngerilme momenti) eğilme momentinden



Şekil 2.6 Doğru yörüngeli kablo

oluşur.

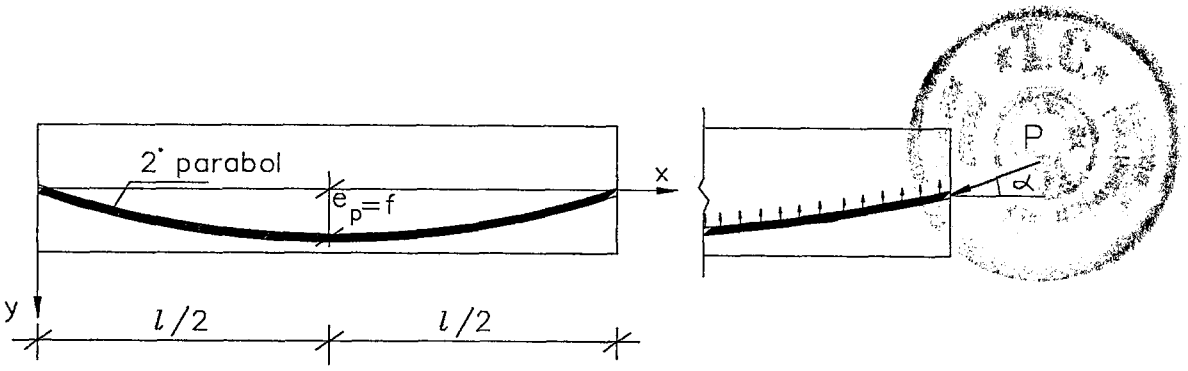
Kablo eğrisinin, özellikle düşey kesitte eğrisel - örnekse parabolik - olması ise, ağırlık yükü kaynaklı iç kuvvetleri daha iyi dengeleyebilmek bakımından tercih edilen bir uygulamadır (Şekil 2.7). Bu taktirde ikinci derece parabol kablo eğrisinin,

$$y = 4f\left[\frac{x}{l} - \left(\frac{x}{l}\right)^2\right] \qquad (2.1)$$

ve kablo eğriliğinin

$$\frac{1}{\rho} = \frac{y''}{(1 + y'^2)^{3/2}} \qquad (2.2)$$

şeklinde yazılabileceği diferansiyel geometriden bilinir.



Şekil 2.7 Parabolik yörüngeli kablo

Kablo eğrisinin birinci ve ikinci türevleri:

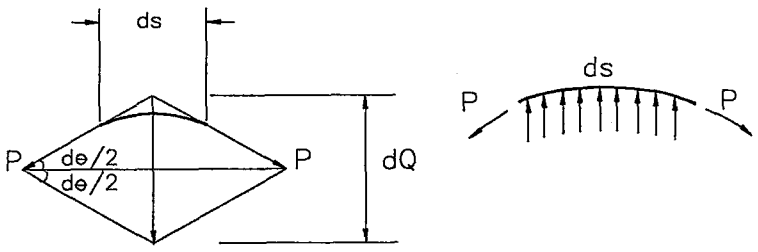
$$y' = \frac{4f}{l}\left(1 - \frac{2x}{l}\right) \quad ; \quad y'' = -\frac{8f}{l^2} \qquad (2.3)$$

olur.

Uygulamada kablo eğrileri oldukça basık ve yatıktır. y' ve y" nün yukardaki ifadeleri (2.2) de yerine konulur ve sadeleştirilir ise,

$$\frac{1}{\rho} = \frac{y'}{(1 + y'^2)^{3/2}} \approx y'' = -\frac{8f}{l^2} \qquad (2.4)$$

bulunur.



Şekil 2.8 Elemanter (ds) kablo parçasına etkiyen kuvvetler

Eğri yörüngeli kablonun (ds) elemanter parçasının düşey denge denkleminden (Şekil 2.8);

$$dQ = 2\,P \sin\frac{d\theta}{2} \qquad (2.5a)$$

ve küçük açılar için

$\sin\theta = tg\,\theta = \theta$ ve $\cos\theta = 1$ yaklaşımı ile

$$dQ = 2P\,d\theta/2 = P\,d\theta \qquad (2.5b)$$

bulunur.

(2.4) ve (2.5) ifadeleri birlikte dikkate alınarak,

$$q = \frac{dQ}{ds} = \frac{P\,d\theta}{ds} = P\frac{1}{\rho} = P\,y'' \qquad (2.6)$$

ifadesine ulaşılır; bu betonun kabloya tepkisidir. Kablonun betona tepkisi ise buna eşit ve ters işaretlidir.

y" 'nün yukardaki ifadesi (2.4) ise, f/l kablo basıklığına bağlı olduğundan, parabolik kablonun eşdeğer yükü;

$$q = P\,\frac{8f}{l^2} \qquad (2.7)$$

şeklinde, sabit ve düzgün yayılı olacaktır.
Ayrıca, öngerilme kablosunun çıkış eğimine bağlı olarak, ankrajlarında, öngerilme kuvvetinin yatay ve düşey bileşenleri bulunacaktır.
Yatay kuvvet;

$$N = P\cos\alpha;$$

küçük açılarda $\cos\alpha = 1$ yaklaşımı ile

$$N = P \qquad (2.8a)$$

Düşey kuvvet;

$$V=-P \sin\alpha \qquad (2.8b)$$

olur.

Öngerilme kuvveti, ankrajlarda belirli bir (e) eksantrisitesiyle uygulanırsa, kablo ankraj noktalarındaki düşey ve yatay kuvvet bileşenlerine ek olarak

$$M=Pe \qquad (2.8)$$

şiddetinde öngerilme momenti de bulunacaktır.

Çözüm yapılırken var olan bütün bu yükler dikkate alınır. Bu çalışmada, basit mesnetli verev plakları karşılıklı kenarları arasında kateden, gerek boyuna, gerekse enine kablolar, düşey planda ikinci derece parabol alınmıştır; çıkış noktalarındaki eksantrisite sıfır alınmamıştır; yani, mesnetlerde ve sınırlarda öngerilme momenti uygulaması çalışmanın kapsamı dışındadır.

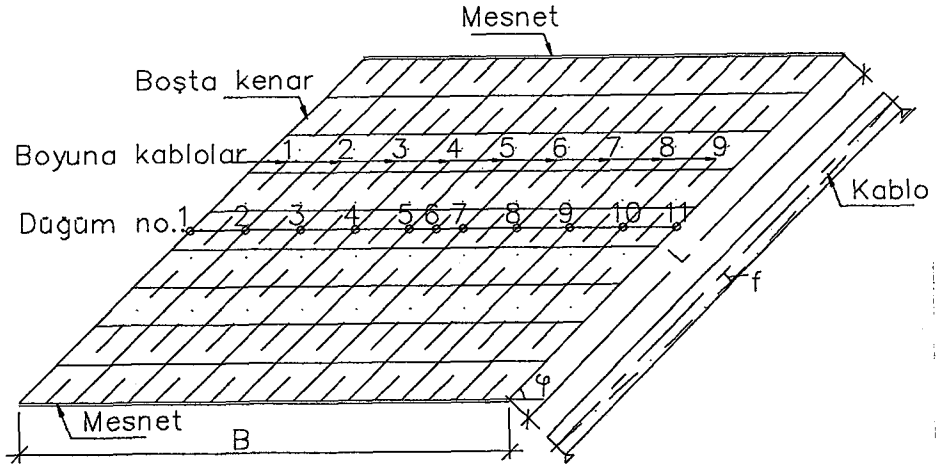
BÖLÜM 3

BİR AÇIKLIKLI BASİT MESNETLİ VEREV PLAKLARDA ÖNGERİLME KUVVETİ TESİR SAYILARI

3.1 BAZI TANIMLAR

Betonarme ya da öngerilmeli beton olarak tasarlanan ve daha çok şehir içi sanat yapılarında kullanılan verev masif plaklar, genellikle karşılıklı iki kenarından mesnetlidirler (Şekil 3.1). Mesnetler arası, eğik boşta kenarlara paralel mesafe, açıklık (L), boşta kenarların mesnetlere paralel mesafesi ise genişlik (B) olarak tanımlanmıştır. Boşta kenar doğrultusu ile mesnet çizgisi arasındaki açı, genellikle, literatürde parametre olarak alınmış ve (φ) ile gösterilmiştir. Uygulamada, φ açısı genellikle, 30°-60° arasında değişir.

Belirli bir sınır olmamakla birlikte genişliği açıklığından büyük plaklar, verevlik açısına bakılmaksızın, **"geniş verev plak"**; açıklığı genişliğinden büyük plaklar ise **"dar verev plak"** olarak tanımlanır.

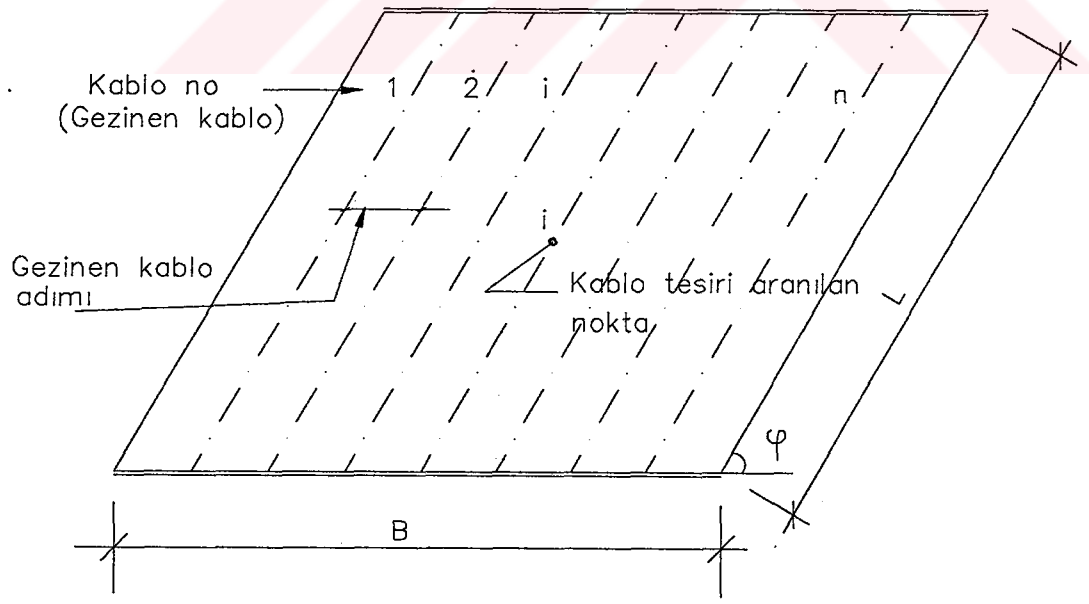


Şekil 3.1 Verev plak

Öngerilme kablolarından, genelde, boyutlandırmada etkin olan ve ortalama olarak, mesnet çizgisi ile $(90°+\varphi°)/2$ açısı yapan doğrultuda etki eden maksimum eğilme momentlerini karşılamak üzere, doğrultuları genelde boşta kenarlara paralel ya da $(90°+\varphi°)/2$ verevlikli olarak düzenlenen kablolara **"boyuna kablolar"**, mesnet çizgisine paralel ya da boşta kenarlarda ankrajlanan kablolara ise **"enine kablolar"** denir.

Öngerilme kabloları, bilindiği üzere, prekast önceden gerilmeli beton yapılarda düşey ve yatay düzlemde düz hatlı, sonradan gerilmeli beton yapılarda, moment yayılışına uygun, genelde ikinci derece parabol olarak düzenlenir. **Kablonun eksantrikliği, herhangi bir kesitte, plak orta düzlemine mesafesi** olarak tanımlanmakla birlikte, kablo eğrisinin oku ($e_p = f$) olarak anlaşılacaktır.

3.2 GEZİNEN KABLOLARIN TESİR SAYILARI



Şekil 3.2

Bu çalışmanın amaçları:

1) Herhangibir kablo veya belirli kablo düzeninden dolayı bir

(i) noktasında, boyutlandırmaya esas olacak ve en azından ön (avan) projelerde kullanılabilecek öngerilme kesit kuvvetlerini (M_p eğilme ve N_p normal kuvvetlerini), kolayca tahmin etmeye imkan verecek bir takım tesir sayıları bulmak ve bunları tablolar halinde düzenlemektir:

$$\eta_{ij} = \text{Tesir sayısı} \qquad (3.1)$$

j=kablo numarası, i= tasarımda gözönüne alınan kesittir. Aranılan kesit tesirine göre;

- Eğilme momentleri için $\eta_{ij} = m_{22}^{ij}$ veya m_{11}^{ij} ,
- Burulma momenti için $\eta_{ij} = m_{12}^{ij}$,
- Normal kuvvetler için $\eta_{ij} = s_{22}^{ij}$ veya s_{11}^{ij}

olarak gösterilmiştir. Hatırlama kolaylığı bakımından bu çalışmada yararlanılan SAP90 (Structural Analysis Program-90) profesyonel programının notasyonuna paralellik korunmuştur.

(i) noktası (kablo tesiri aranılan nokta) sabit tutularak (j) kablosu değiştirilince (j=1,2,...,n),

- (j) bir hat üzerinde gezinince, **"gezinen kablonun tesir çizgisi"**;
- (j) tüm yüzey üzerinde gezinince, **"gezinen kablonun tesir yüzeyi"**

diyebileceğimiz,grafik ve/veya tablo halinde düzenlemeye elverişli tesir ordinatları elde edilecektir.

Bu çalışmada; (i) noktaları, mesnet kenarlarına paralel plak orta çizgisi üzerinde, 11 nokta, olarak alınmış ve bu nedenle, elde edilen tesir ordinatlarının **"tesir sayıları"** olarak adlandırılması tercih edilmiştir.

Tesir sayılarının hesabında, literatürde yer alan Mörsch, Pucher, Pigeot gibi bilim adamlarınca verilen ve aynı isimle anılan abaklar kullanılabilir; nevarki, bu abaklarla, ancak,

plak momentleri hesaplanabilir, levha kuvvetleri bulunamaz. Abakların kullanılmasında, kablo fiktif yükü (bkz: 2.7), kablo hattı boyunca belirli bir genişlikte kısmî yayılı üniform yük olarak alınabilir. Ancak; her kablo için iki eğilme momenti ve bir burulma momenti tesir sayısının bu şekilde hesabı uzun ve zahmetli olduğu gibi, levha kuvvetlerinin başka bir metodla elde edilmesi gerekir; ayrıca gerek kaçınılmaz olarak taşıdığı okuma ve yuvarlatma hatâları, gerekse ayrıca yapılabilecek sistematik hâtâ ihtimali fazla olduğundan, doğrudan doğruya bir nümerik analize dayanan hesap yönteminin kullanılması uygun olur. Bu sebeple, tesir sayılarının, **SAP90** yardımı ve **sonlu elemanlar metodu** ile hesabı tercih edilmiştir; bu suretle, (i) noktasını, her plak için birden çok (simetrik 11 nokta) almak mümkün olmuştur.

2) İkinci bölümde özetlenen, literatürde yer alan kablo düzenlerinin birbirleri ile karşılaştırılmasına imkân verecek sayısal sonuçlar üretmek suretiyle, literatürdeki tavsiyeleri doğrulamak ve irdelemek; mümkünse, yeni yorumlar eklemek, sayısal karşılaştırmalar yapabilecek sonuçlar üretmek, bu çalışmada güdülen ikinci amaçtır.

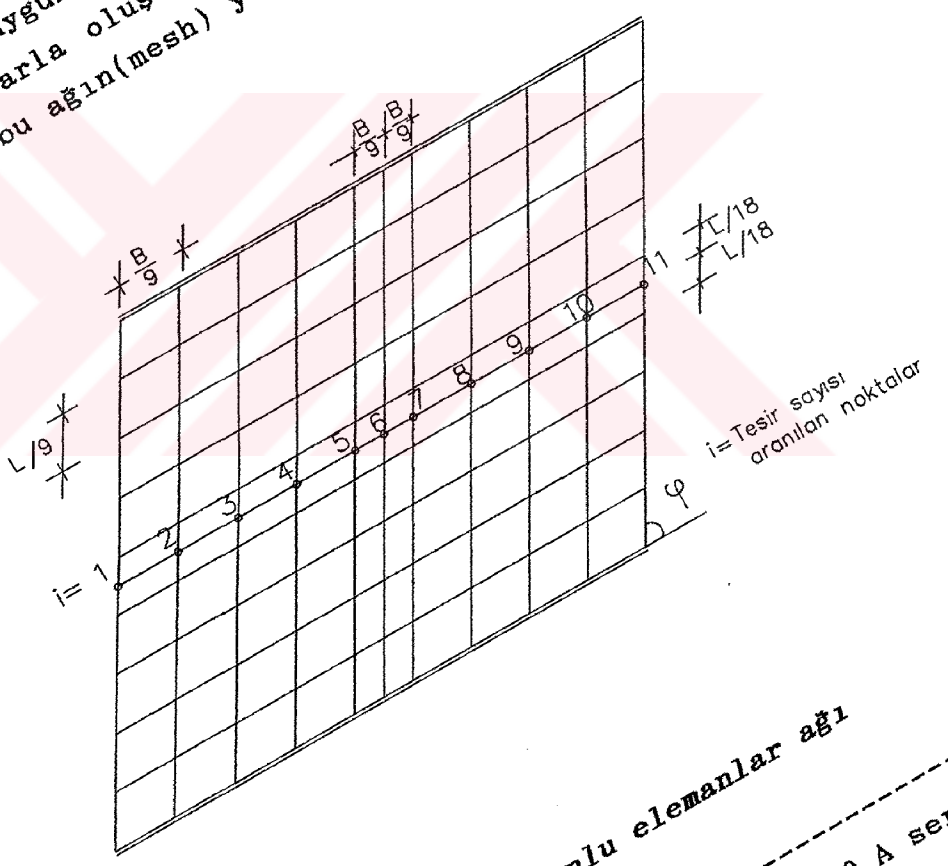
3) Öngerilme kablosundan ileri gelecek kesit tesirlerinin hesabı membran kuvvetlerini (kesit normal kuvvetlerini) de içereceğinden, kablo kuvvetlerinin levha etkilerini de incelemek ve bu kuvvetlerin hesabı için literatür oluşturmak mümkün olabilecektir.

3.3 KULLANILAN PROGRAM : SAP90 (*)

Yukardaki paragrafta açıklanan nedenlerle, öngerilme kablolarından ileri gelen kesit tesirlerinin hesabında, literatürde yer alan abakların kullanılması yerine, kullanışlılığı ve geçerliliği kanıtlanmış bir yapı analiz

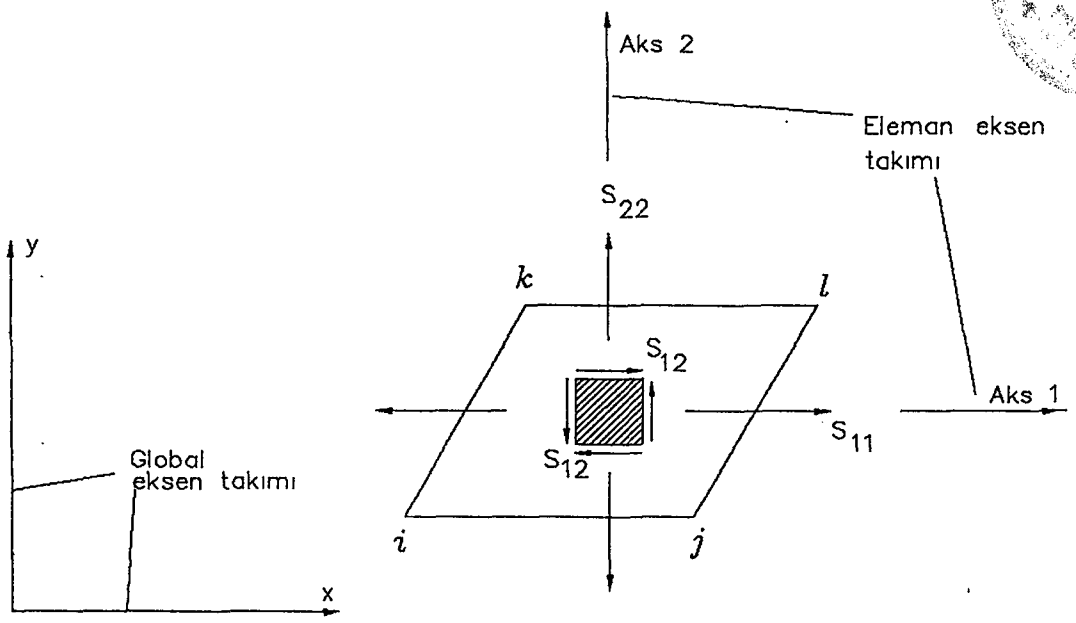
programının sonlu elemanlar metodunun kullanılması tercih edilmiştir. Bu bakımdan SAP90 Yapı analiz programı, gerek üniversiteler ortamında, gerekse mühendislik uygulamalarında uzun süredir kullanılan, herkesçe kabul görmüş istisnai bir konuma sahiptir. Tabiatiyle, her programda olduğu gibi, bu programın da doğru ya da doğruya yakın değerler verebilmesi doğru kullanılabilmesine bağlıdır.

Şekil 3.1'den de farkedilebileceği gibi,sonlu elemanlar ağı, yapının geometrisine uygun olarak, yapının homotetiği olan paralelkenar elemanlarla oluşturulmuştur (Şekil 3.3). Tüm çözümlerde kurulan bu ağın(mesh) yapısı aynen korunmuştur.



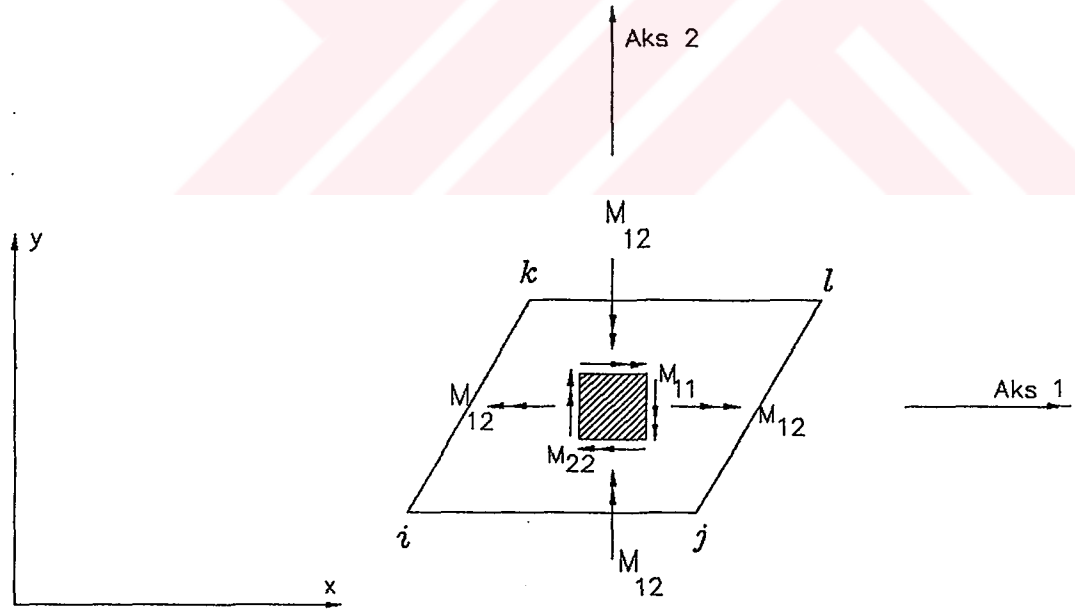
Şekil 3.3 Kullanılan sonlu elemanlar ağı

(*) E.L. Wilson ve A. Habibullah "SAP90 A series of computer programs for the static and dynamic finite element analysis of structures", Computer & Structures Inc., Berkeley, California



(a) Membran kuvvetleri (kN/m)

(çekme ise pozitif)



(b) Eğilme (M_{11}, M_{22}) ve burulma (M_{12}) momentleri (kNm/m)

Şekil 3.4 SAP90'da eleman eksenleri ve kesit tesirleri

Paralel kenar bir sonlu elemanın köşe noktalarının isimlendirilmesi ve kesit tesirleri, programın kendi özel notasyonu ile Şekil 3.4'de gösterilmiştir: Program, i-k ve j-l kenarlarının orta noktalarını birleştiren ekseni Aks-1, buna dik ekseni Aks-2 olarak alır; görüldüğü gibi, eleman eksenleri ile global eksenler biribirlerine paraleldir. Aks-3, sağ el kuralına göre belirlenir; yâni kağıt düzlemine dik ve bize doğrudur.

Şekil 1.3'de gösterilen ve literatürde kullanılan notasyonla karşılaştırılınca :

$$M_x = M_{11} \qquad M_y = M_{22} \qquad M_{xy} = M_{12}$$

olduğu görülür. Program çıktılarındaki notasyonla bir karışıklığa meydan vermemek için, bundan böyle, programın notasyonunun kullanılması tercih edilmiştir.

Öngerilme tesirleri aranılan noktada, kesit tesirlerinin maksimum ve minimumları ile doğrultularını hesaplayabilmek için

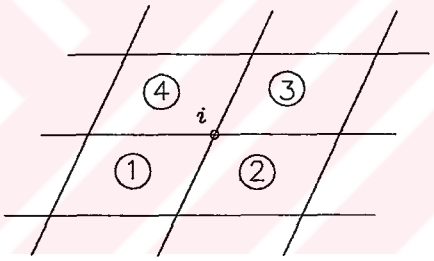
$$S_{11} \qquad M_{11}$$
$$S_{22} \qquad M_{22}$$
$$S_{12} \qquad M_{12}$$

tesirlerinin bilinmesi, yâni bir noktada, her bir kablo için altı tesir sayısının verilmesi gerekecektir. Hesap kesitinin doğrultusu önceden seçilmek kaydıyla, bu kesit, maksimum eğilme momenti kesiti olabilir, kesitteki kesit kuvvetleri verilerek bu sayı dörde, hatta ikiye düşürülebilir.
Ancak; bir (i) noktasında her bir kablo için maksimum eğilme momenti kesiti farklı doğrultuda olacağından, böyle bir uygulama pratik olmaz. Her nekadar, normali x

ekseni ile $(90^{o}+\varphi^{o})/2$ açısı yapan kesitin, en uygun kesit olarak dikkate alınması literatüre uygun düşünülebilirse de, çözümün genelliği bozulmuş olacağından, her bir nokta için altı tesir sayısının hesaplanarak düzenlenmesi yolu seçilmiştir.

Yaklaşık tahkiklerde, örneğin ön-boyutlandırma hesaplarında, maksimum kesit tesiri yerine, doğrudan doğruya M_{22} ve S_{22} kuvvetleri de kullanılabilir.

Şekil 3.3'de gösterildiği gibi, tesir sayısı aranılan noktalar, sonlu elemanlar ağı üzerine düşen plak orta hat düğümleridir: i=1,2,...11. Tabiatıyla, sonlu eleman



Şekil 3.5

büyüklüğüne de bağlı olarak, bir (i) düğümünde bu düğümü köşe kabul eden dört sonlu eleman (Şekil 3.5) için hesaplanacak tesir sayıları birbirinden az da olsa farkedebilir; bu nedenle, (i) noktasının tesir sayıları, bu dört elemanın verdiği sayıların aritmetik ortalaması olarak alınmıştır.

3.4 NÜMERİK ÇÖZÜMLERİN PARAMETRELERİ

Bir noktada her bir kablo için paragraf 3.3'de sayılan altı tesir sayısı hesaplanacaktır. Tablo ve abakların düzenlenebilmesi için gerekli dataları elde etmek, çok

sayıda çözüm üretip bunların değerlendirilmesi ile mümkün olduğundan, değişik verevlikte ve değişik kenar oranlarına sahip plakların çözümü gerekmektedir. Çözüm sayısını ve tabloları sınırlı tutmak için bu değişkenlerin de mümkün olan en az sayıda olması düşünülmelidir. Bu düşünce ile, bu çalışmada:

- Verevlik açısı φ° = 30, 45, 60 ;
- Kenar oranları B/L = 0.40, 0.60, 0.67, 1.00, 1.60

alınmıştır.

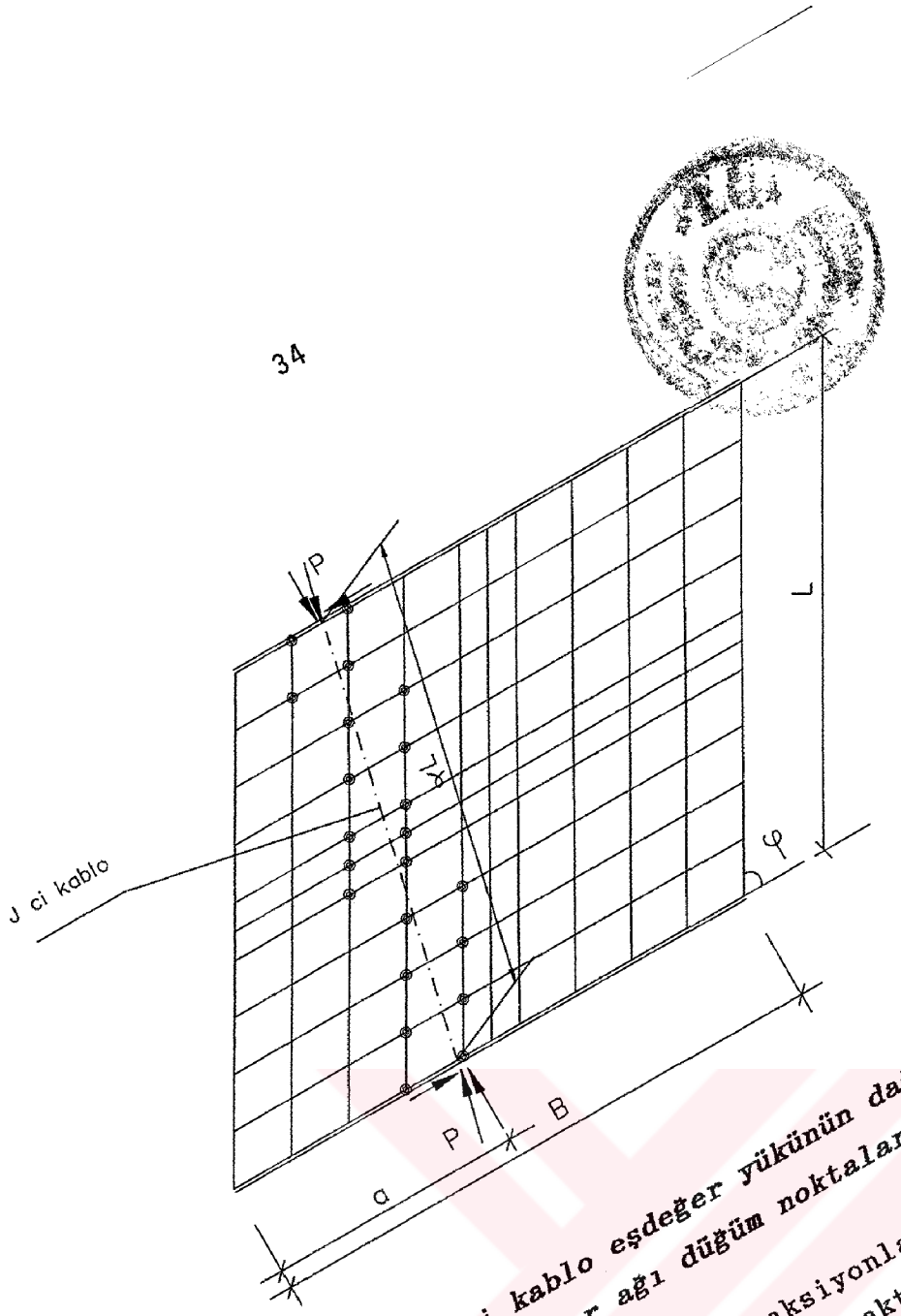
Gerek nümerik çözümlerle ilgili datalar üretilirken, gerekse tabloların isimlendirilmesinde, data ve tablo ismine bu özellikler yansıtılmıştır; örnekse **N451P**, verevlik açısı 45°, B/L =1.00, kabloları, boşta kenarlara paralel olan çözümler seti datası adıdır.

3.5 TESİR SAYILARI VE KULLANILIŞI

Tesir sayılarının hesabı, yukarıda sayılan verevlik açısı ve kenar oranlarına sahip verev plaklar için yapılmıştır. Sonuçların güvenilir ve hâtâlardan olabildiğince arındırılması için, her şeyden önce veri (data) üretiminin sistematik ve hâtâsız yapılabilmesi gereklidir. Data üretiminin en önemli kısmı ise;

$$q = \frac{8f}{(\alpha L)^2} P \qquad (3.2)$$

çizgisel düzgün (üniform) yayılı kablo yükünün düğümlere dağıtımının yapılmasıdır; burada, L boşta kenar uzunluğu, αL ise kablo uzunluğudur (Şekil3.6); bir plakta kablo açısının değişken olması hâlinde, kablo boylarının ortalaması αL alınabilir. Kablo çizgisel yükünün, kablonun kestiği sonlu eleman kenarlarına izostatik çubuk reaksiyonları gibi



Şekil 3.6 j ci kablo eşdeğer yükünün dağıldığı sonlu elemanlar ağı düğüm noktaları

etkidikleri; keza, bu reaksiyonların da çökmeyen sabit düğümlere izostatik çubuklarla aktarıldığı kabulü ile düğüm yükleri hesaplanmıştır. Tabiatıyle burada, her bir düğümde, bir miktar (+) ya da (-) tahmin hataları olmaktadır; bununla beraber, toplamda bunlar birbirini götüren hâtâlar olup sonuca etkileri ihmal edilebilir. Düğüm yükleri hesabı için değişkenleri Şekil 3.6'da verilen bir program geliştirilmiş ve data üretiminde kullanılmıştır.

Plak çözümünde her bir kablo bir yükleme numarası ile ifade edilmiştir. Tesir sayılarına ait aşağıdaki tablo ve grafiklerden de görüldüğü üzere; her bir plak için 9 kablo ve/veya 9 kablo grubu dikkate alınmış olup 5 ci kablo hep plak orta nokta (i=6 numaralı) sından geçer; 1 ve 9,2 ve 8, 3 ve 7, 4 ve 6 numaralı kablolar plak orta noktasına göre simetrik kablolardır. Bu sebeple, tesir sayıları da aynı tarzda simetriyi haizdir.

Tablolarda, kablo veya kablo gruplarının eşit olması

durumunda kullanılmak üzere, 9 kablo/kablo grubunun toplam tesir sayısını gösteren bir onuncu sütun eklenmiştir; özellikle ön-tasarım (preliminary design) hesaplarında bu sütunda verilen tesir sayılarından yararlanılabileceği düşünülmüştür.

SAP90 çıktılarının, tablolarda işaret edilen formda düzenlenmesi, ve bu esnada, hesabın presizyonunu arttırmak için bir düğümde birleşen dört sonlu elemanın karşılıklı değerlerinin ortalamasının alınması (bkz. Şekil 3.5) işi, yine okuma ve yazma hatalarından kurtulmak için; SAP çıktısını (F4F file'ını) doğrudan okuyup bu düzenlemeyi yapmak üzere bir program geliştirilmiştir.

m_{11}, m_{12}, m_{22}, s_{11}, s_{12}, s_{22} tesir sayıları; M_{11}, M_{12}, M_{22}, S_{11}, S_{12}, S_{22} ise bunlara ilişkin (Şekil 3.4) kesit tesirleri olmak üzere, herhangibir (i) noktasındaki kesit tesirleri:

$$
\begin{aligned}
M_{11}^{i} &= \sum_{j=1}^{n} m_{11}^{ij}\, P_j\, f_j\, \bar{L}/L \\
M_{12}^{i} &= \sum_{j=1}^{n} m_{12}^{ij}\, P_j\, f_j\, \bar{L}/L \\
M_{22}^{i} &= \sum_{j=1}^{n} m_{22}^{ij}\, P_j\, f_j\, \bar{L}/L \\
S_{11}^{i} &= \sum_{j=1}^{n} s_{11}^{ij}\, P_j\, \bar{B}/B \\
S_{12}^{i} &= \sum_{j=1}^{n} s_{12}^{ij}\, P_j\, \bar{B}/B \\
S_{22}^{i} &= \sum_{j=1}^{n} s_{22}^{ij}\, P_j\, \bar{B}/B
\end{aligned}
\qquad (3.3)
$$

formülleri ile bulunacaktır. Burada:

$\bar{L}, \bar{B}$: Tabloların hazırlanmasında esas alınan plak boyutları;

i : Tesir aranılan nokta (i=6 orta nokta);

j : Tasarımda gözönüne alınan kablo ve/veya kablo grubu numarası;

P_j: (j) numaralı kablo/kablo grubu kuvveti: (kN);

f_j: (j) numaralı parabolik kablonun orta kesitindeki eksantrikliği (oku $=e_p$);

M^i: (i) noktasındaki moment : (kNm/m);

S^i: (i) noktasındaki normal (membran) kuvveti: (kN/m)

olarak anlaşılacaktır.

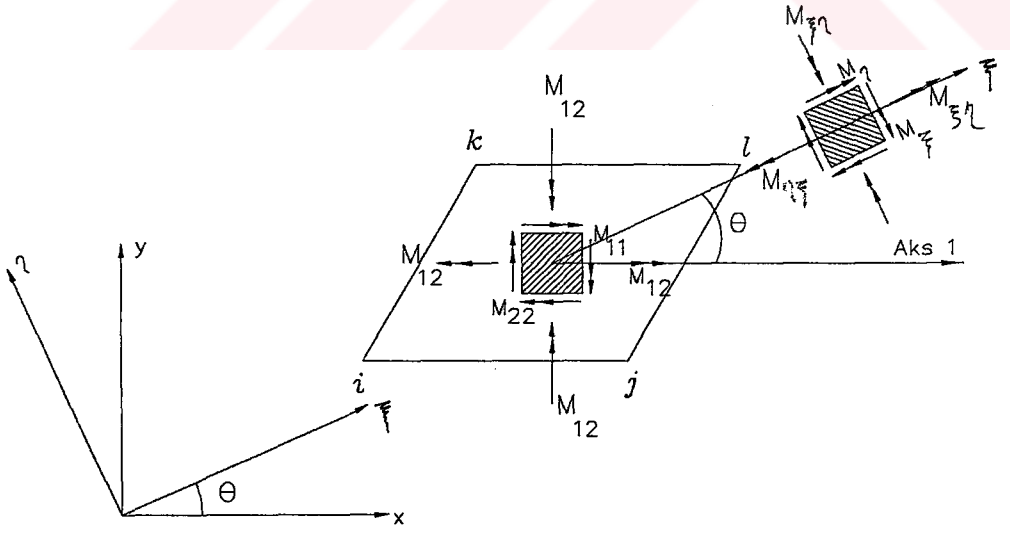
3.6 EKSEN TAKIMI DEĞİŞMESİ DURUMUNDA KESİT TESİRLERİ

Şekil 3.4'den de farkedileceği üzere; kullanılan programın kesit kuvvetleri notasyonu ve global eksen takımı yönleri, plak ve kabuk teorisinde kullanılan alışılagelmiş notasyon ve eksen yönlerinden farklıdır; programcı açısından bu kullanış tarzı, çerçeve sistemlerde kullanılan global eksen sistemi ile paralellik sağlayıp aynı yapı çözüm sistemi içerisinde çerçeve elemanları ile plak elemanlarını birlikte kullanabilmek kaygısından kaynaklanır. Kullanılan notasyon, bu çalışmada:

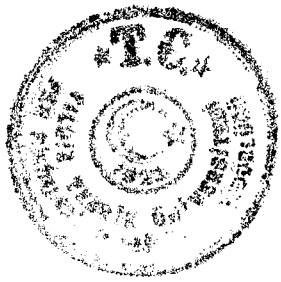
$$M_{11} = M_x \quad , \quad M_{12} = M_{xy} \quad , \quad M_{22} = M_y$$

$$S_{11} = N_x \quad , \quad S_{12} = N_{xy} \quad , \quad S_{22} = N_y$$

anlamına gelmektedir. (x) ekseni ile (θ) açısı yapan bir karteziyen ξ—η eksen takımına göre (eksen döndürme hâlinde) kesit kuvvetleri (Şekil 3.7):



Şekil 3.7 Eksen döndürme durumunda kesit kuvvetleri



$$
\begin{aligned}
M_\eta &= M_{11}\sin^2\theta + M_{22}\cos^2\theta - M_{12}\sin 2\theta \\
M_\xi &= M_{11}\cos^2\theta + M_{22}\sin^2\theta + M_{12}\sin 2\theta \\
M_{\xi\eta}=M_{\eta\xi} &= \frac{1}{2}(M_{22} - M_{11})\sin 2\theta + M_{12}\cos 2\theta \\
S_\eta &= S_{11}\sin^2\theta + S_{22}\cos^2\theta - S_{12}\sin 2\theta \\
S_\xi &= S_{11}\cos^2\theta + S_{22}\sin^2\theta + S_{12}\sin 2\theta \\
S_{\xi\eta}=S_{\eta\xi} &= \frac{1}{2}(S_{22} - S_{11})\sin 2\theta + S_{12}\cos 2\theta
\end{aligned}
\qquad (3.4)
$$

ile hesaplanabilir. Kesit kuvvetlerinin maksimumları ise:

$$
\begin{aligned}
M_{max} &= \frac{1}{2}(M_{11}+M_{22}) + \left[\left(\frac{M_{11}-M_{22}}{2}\right)^2 + M_{12}^2\right]^{1/2} \\
M_{min} &= \frac{1}{2}(M_{11}+M_{22}) + \left[\left(\frac{M_{11}-M_{22}}{2}\right)^2 + M_{12}^2\right]^{1/2} \\
\theta_1 &= \frac{1}{2}\arctan\left(\frac{2M_{12}}{M_{11}-M_{22}}\right) \\
S_{max} &= \frac{1}{2}(S_{11}+S_{22}) + \left[\left(\frac{S_{11}-S_{22}}{2}\right)^2 + S_{12}^2\right]^{1/2} \\
S_{min} &= \frac{1}{2}(S_{11}+S_{22}) - \left[\left(\frac{S_{11}-S_{22}}{2}\right)^2 + S_{12}^2\right]^{1/2} \\
\theta_2 &= \frac{1}{2}\arctan\left(\frac{2S_{12}}{S_{11}-S_{22}}\right)
\end{aligned}
\qquad (3.5)
$$

dir.

Eğilme momentlerinin ekstremlerinin bulunduğu düzlemler ile membran kuvvetlerinin ekstremlerinin bulunduğu düzlemler, yani θ_1 ve θ_2 açıları farklıdır.

Bir öngerilmeli plak kesitinde maksimum ve minimum gerilmelerin tahkiki söz konusu olduğunda;

a) Öngerilme momentlerinin maksimum/ minimum (θ_1);
b) Öngerilmeden ileri gelen plak düzlemindeki iç kuvvetlerin(membran kuvvetlerinin) maksimum/minimum (θ_2);

c) Plak sabit yüklerinden ve trafik yüklerinden ileri gelen momentlerin maksimum/minimum (θ_3)

oldukları kesitlerin,aynı olmamaları yüzünden ayrı ayrı incelenmeleri söz konusu olacaktır; yani, üç ayrı ekstrem durumun ayrı ayrı denetlenmesi, bir başka deyimle, dış kuvvetlerden ileri gelen tüm iç kuvvetlerin:

(a) şıkkı için θ_1 ile,

(b) şıkkı için θ_2 ile,

(c) şıkkı için θ_3 ile izdüşümlerinin alınması gerekecektir. Pratik olarak, projelendirme ihtiyaçlarına, (c) şıkkı tek başına cevap verir.

Tabiatıyle; kesit kuvvetleri yerine, gerilme izdüşümlerinin hesabı ile de çalışılabilir.

3.7 ÖRNEKLER

3.7.1 ÖRNEK 1

φ = 45°, verev plak; 9 paralel boyuna kablo,
L=15 m, B=15 m, h= Döşeme kalınlığı= 0.60 m,
Kaplama+parmaklık+v.s..... = 2.5 kN/m^2,
Hareketli yük (impakt etkisi dahil) = 10.0 kN/m^2

Çözüm:

(a) Sabit yük kesit tesirlerinin hesabı:

Yük analizi

* Döşeme kendi ağırlığı=0.60*25 = 15.00 kN/m^2
* Kaplama.....= 2.50 kN/m^2

.....

Toplam g= 17.50 kN/m^2

B/L = 15/15 = 1.00 , Ref: Paragraf 5.4,
Tablo 5.4.3 ; orta nokta(düğüm no: 6)

$M_{g11} = m_{11g} (\bar{L}/L)^2 = -0.7836*10^{-3} * 17.50* 15^2 = -3.085$ kNm/m

$M_{g22} = m_{22g} (\bar{L}/L)^2 = 68.7320*10^{-3} * 17.50* 15^2 = 270.632$ kNm/m

$M_{g12} = m_{12\varepsilon} (\bar{L}/L)^2 = 5.6225*10^{-3} *17.50* 15^2 = 22.139$ kNm/m

Ref. formül 3.5:

$\theta=(1/2)\text{arctg}[\ 2M_{12} / (M_{11} - M_{22})] =$

$0.5\ \text{arctg}\ [2*5.6285/(-0.7836-68.732)] = -4.5943$ derece

(Tablo 4.4'den de alınabilir).

Ref. formül 3.4:

$M_{g\eta} = M_{11} \sin^2\theta + M_{22} \cos^2\theta - M_{12} \sin 2\theta = 272.411$ kNm/m

(b) Hareketli yük kesit tesirleri hesabı: $q= 10$ kN/m^2

$$M_{q\eta} = 272.411*(10/17.5)=155.663 \text{ kNm/m}$$

(c) Boyuna paralel 9 kablodan ileri gelen kesit tesirlerinin hesabı: Kablo paspayı= 6 cm ; $f_j = 60/2 - 6 = 24$ cm (bütün kablolar için):

Ref: N451P No. lu (M_{11}, M_{22}, M_{12}, S_{11}, S_{22}, S_{12}) tabloları:

(i=6)

$M_{p11} = \Sigma\ m_{11}^{ij}\ P_j\ f_j\ \bar{L}/L = 0.11649*P*0.24/15 = 0.001864*P$ kNm/m

$M_{p22} = \Sigma\ m_{22}^{ij}\ P_j\ f_j\ \bar{L}/L = -6.92985*P*0.24/15 = -0.110878*P$ "

$M_{p12} = \Sigma\ m_{12}^{ij}\ P_j\ f_j\ \bar{L}/L = -0.58658*P*0.24/15 = -0.009385*P$ "

$S_{p11} = \Sigma\ s_{11}^{ij}\ P_j\ /B = -6.33583*P/15..... = -4.2239*P$ kN/m

$S_{p22} = \Sigma\ s_{22}^{ij}\ P_j\ /B = -6.4747*P/15..... = -0.43165*P$ "

$S_{p12} = \Sigma\ s_{12}^{ij}\ P_j\ /B = -6.33438*P/15..... = -0.42229*P$ "

Ref. formül 3.4 : $\theta= -4.5943$ derece

$M_{p\eta} = M_{p11} \sin^2\theta + M_{p22} \cos^2\theta - M_{p12} \sin 2\theta = -0.111653*P$ kNm/m

$S_{p\eta} = S_{p11} \sin^2\theta + S_{p22} \cos^2\theta - S_{p12} \sin 2\theta = -0.499*P$ kN/m

(not: normal kuvvet işareti : +: çekme; -: basınç)

(d) Gerekli kablo kuvvetinin hesabı:

Beton gerilmelerinin basınç kalma şartı yazılarak hesaplanabilir.

(d_a)Üst yüzeyde minimum beton gerilmesinin basınç kalma koşulu ile:

$$\sigma_c = \frac{N}{A_c} + \frac{\Sigma M}{I} \times h_o \leq 0$$

$$\sigma_c = \frac{S_\eta}{A_c} - \frac{M_g}{I} \times h_o - \frac{M_{p\eta}}{I} \times h_o \leq 0$$

$$\frac{-0,499\,P}{0,6 \times 1} - \frac{272,411}{\frac{0,6^3}{12} \times 1} \times 0,3 - \frac{-0,111653\,P}{\frac{0,6^3 \times 1}{12}} \times 0,30 = 0$$

$-0.83167\ P - 4540.1833 + 1.860883\ P = 0$

$P = 4411.31$ kN/kablo

(d_b)= Alt yüzde minumum beton gerilmesinin basınç kalması koşulu ile:

$$\sigma'_c = \frac{S_\eta}{A_c} + \frac{(M_{g\eta} + M_{q\eta})}{I} h_u + \frac{M_{p\eta}}{I} . h_u \leq 0$$

$$\sigma'_c = \frac{-0,499\,P}{0,6} + \frac{(242,411 + 155,663)}{\frac{0,6^3}{12} \times 1} \times 0,30 - \frac{0,111653\,P}{\frac{0,6^3}{12}} \times 0,30 \leq 0$$

$-0.83167\ P + 6634.5667 - 1.860883\ P = 0$

$P = 2464.04$ kN/ Kablo

$P_u = \min \begin{cases} P_o \\ P_u \end{cases} = 2464.04$ kN/kablo

3.7.2 ÖRNEK 2

Örnek 1'deki plak ve yükler; 9 boyuna yelpaze kablo.

(a) Sabit düşey yük kesit tesirleri : Örnek 1 ile aynı.

(b) Hareketli yük kesit tesirleri : Örnek 1 ile aynı.

(c) Boyuna yelpaze 9 kablodan ileri gelen kesit tesirleri:

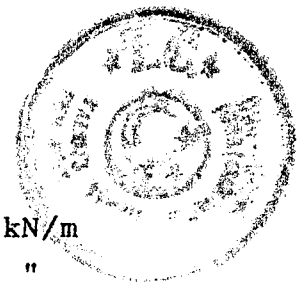
Ref: N451F no.lu (M_{11}, M_{22}, M_{12}, S_{11}, S_{22}, S_{12}) tabloları:

(i= düğüm no =6)

$M_{p11} = -1.40263*P*0.24/15 = -0.022442*P$ kNm/m

$M_{p22} = -9.10283*P*0.24/15 = -0.145645*P$ "

$M_{p12} = -0.70200*P*0.24/15 = -0.011232*P$ "



S_{p11} = -1.15253*P/15..... = -0.076835*P kN/m

S_{p22} = -12.31775*P/15.....= -0.821183*P "

S_{p12} = -4.9108*P/15.......= -0.327387*P "

Ref. formül 3.4 : θ=4.5943 derece

$M_{p\eta}$ = -0.146648*P kNm/m

$S_{p\eta}$ = -0.868686*P kN/m

(d) Alt yüzde minimum beton gerilmesinin basınç kalma koşulu ile:

$$\sigma'_c = -\frac{0{,}868686\ P}{0{,}6x1} + 6634.5667 - \frac{0{,}146648\ P}{\frac{0{,}6^3}{12}\ x\ 1}\ x\ 0{,}30 = 0$$

P= 1704.7 kN/kablo

Görüldüğü üzere; paralel kablo düzenine oranla, i=6 orta kesiti için, %30.8 kablo kuvveti tasarrufu olmaktadır.

BÖLÜM 4

TESİR SAYILARININ DEĞERLENDİRİLMESİ SONUÇLAR

4.1 TESİR SAYILARININ KULLANILIŞI

a) Tesir sayıları, önceki bölümlerde de açıklandığı üzere, karşılıklı iki kenarında mesnetli verev plakların belirli verevlik açıları ve kenar oranları için. ve
   - Serbest kenarlara paralel kablo düzeni,
   - Geniş açılı köşelerde yoğunlaştırılmış (yelpaze) kablo düzeni,
   - Mesnetlere paralel (enine) kablo düzeni

   durumları için hesaplanmışlardır. Tablolar tüm bu parametreleri aksettiren açıklayıcı resim ve formülleri de içerirler.

   Geometrisi ve/veya kablo düzeni, gösterilenin dışında olan plaklar için bu tesir sayılarının, enterpolasyon ya da ekstrapolasyonla da olsa, kullanılması durumunda bulunacak sonuçlar, ancak kaba bir yaklaşım ifâde edebilir; bu nedenle, bu gibi hâllerde, sonuçlar, ihtiyatla karşılanmalıdır.

b) Boyuna ve enine doğrultularda dokuzar kablo gözönüne alınmıştır; bu kabloların her biri, birkaç yakın kabloyu temsil eden kablo grubu olarak da düşünülebilir; bu taktirde, P_j, f_j sırası ile, gruba dahil kablonun toplam öngerilme kuvvetini ve ağırlıklı ortalama eksantrikliğini ifâde ederler.

c) Önceki bölümde, paragraf 3.6'da, açıklandığı gibi, tesir sayıları ile bulunacak kesit tesirlerinin, maksimum

zorlanmanın olduğu (veya olduğunun farzedildiği) kesitteki izdüşümlerinin bulunarak dikkate alınması gerekecektir. Düşey yükler için maksimum momentler, literatüre göre, ortalama bir yaklaşımla, normali x- ekseni ile $\theta=(90+\varphi)/2$ açısı yapan düzlemde bulunacaktır[10]; izdüşüm kesit tesirleri (3.4) formülleri ile hesaplanabilir. Nevarki, S_{22} normal kuvveti ile M_{22} eğilme momenti, bu mutlak değerce maksimum izdüşüm kesit tesirlerinin en ağırlıklı terimleridir; ön boyutlandırma hesaplarında, öngerilmeden ileri gelen kesit tesirleri:

$$M_{max} = \mid M_{22} \mid \qquad Smax = \mid S_{22} \mid$$

alınabilir. Bunu doğrulayan bazı örnekler Tablo 4.1 ve Tablo 4.2'den izlenebilir.

Aynı tablolardan kolayca izlenebilecek bir başka husus da şudur: Hampe[10]'nin önerdiği θ açısı ile hesaplanan $\mid M_{\eta} \mid$ değerleri $\mid M_{22} \mid$ değerlerinden daha küçüktür; nedeni, Hampe'nin önerdiği açının asal moment doğrultularını tanımlayan gerçek θ açısından, kablo yükleri hali için, epeyce farklı olmasından kaynaklanmaktadır; θ açısı konusu aşağıda, paragraf 4.3'de ayrıca tartışılmıştır.

4.2 KABLOLARIN YELPAZE ŞEKLİNDE AÇILARAK GENİŞ AÇILI KÖŞELERDE SIKLAŞTIRILMASININ ETKİSİ

Kabloların, yelpaze şeklinde açılarak geniş açılı köşelerde sıklaştırılmasının sayısal etkilerini 5.Bölümde verilen tesir sayıları tablolarından doğrudan izlemek mümkündür. Karşılaştırma amacıyla, tipik bazı sonuçlar Tablo 4.3 de işlenmiştir. Tabiatiyle, düzenleme farkının etkileri her kesit tesiri üzerinde aynı değildir. Boyutlandırmada ağırlıklı olan kesit tesiri M_{22} ($=M_y$) dir; bu kesit tesiri üzerinde, yelpaze kablo düzeninin oldukça müspet etkisi vardır; tablo, M_{22} ve S_{22} için düzenlenmiştir.

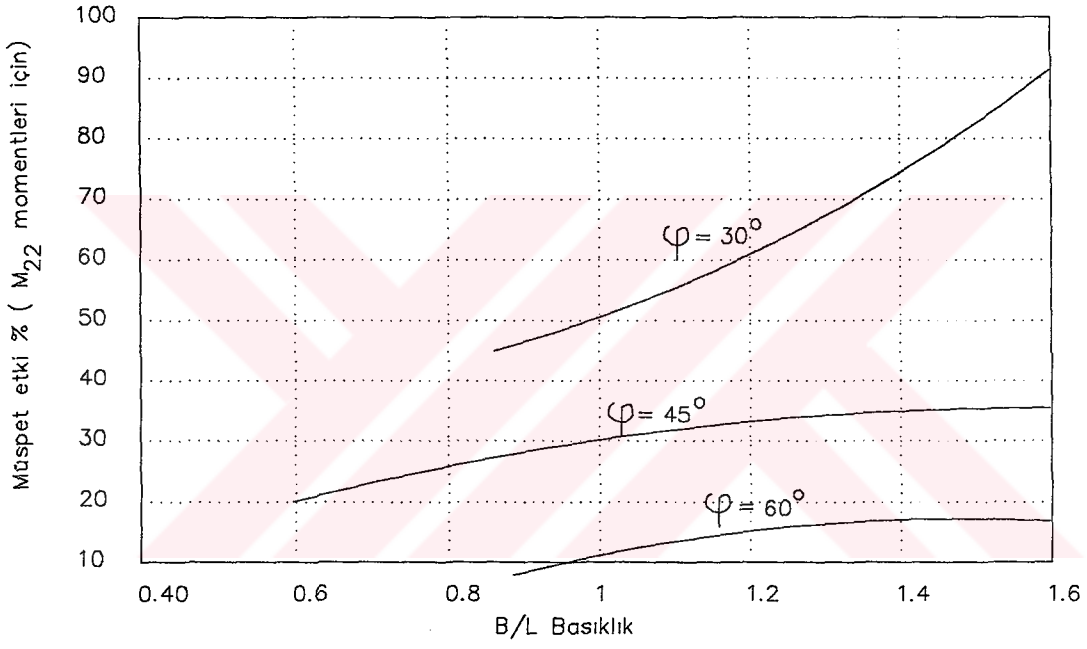
Tablo 4.1		Dokuz eşdeğer boyuna paralel kablo veya kablo grubu						Dağam No: 6			
$\frac{\bar{B}}{\bar{L}}$	φ	Ortak çarpan: $P f \frac{\bar{L}}{L}$			Ortak çarpan: P/B			$(*)$ M_η	$(*)$ S_η	$(*)$ θ	Ref. Tab. No
		M_{11}	M_{22}	M_{12}	S_{11}	S_{22}	S_{12}				
—	(°)	kNm/m			kN/m			kNm/m	kN/m	(°)	—
1.6	60	−0.95938	−7.73185	−0.14549	−2.58053	−7.83547	−4.41348	−7.3509	−9.6902	−15	N609P
	45	−0.68939	−6.40500	−0.16474	−6.30745	−6.52440	−6.29965	−5.6845	−10.9472	−22.5	N452P
	30	−0.48753	−4.58015	−0.15355	−13.4765	−4.74948	−7.76038	−3.6899	−13.6519	−30	3013P
1.0	60	−0.57301	−7.91525	−0.38278	−2.58110	−7.79795	−4.48715	−7.6148	−9.6920	−15	N608P
	45	0.11649	−6.92985	−0.58658	−6.33583	−6.47470	−6.33438	−6.3127	−10.9334	−22.5	N451P
	30	1.13625	−5.50370	−0.90619	−13.5010	−4.76470	−7.77050	−4.6285	−13.6782	−30	3012P
0.67	60	—	—	—	—	—	—	—	—	—	—
	45	0.51979	−7.11295	−1.68538	−6.31428	−6.39775	−6.36883	−7.1869	−10.8889	−22.5	N453P
	30	—	—	—	—	—	—	—	—	—	—
0.60	60	−0.13220	−13.3050	−1.85940	−2.56355	−7.75838	−4.52163	−13.3523	−9.6712	−15	N607P
	45	0.49026	−7.04947	−1.99713	−6.30313	−6.36698	−6.38253	−7.3575	−10.8708	−22.5	N454P
	30	0.69452	−5.62410	−3.28623	−13.4635	−4.58730	−7.81223	−6.8904	−13.5719	−30	3011P
0.40	60	0.06970	−7.86800	−1.67128	−2.54525	−7.71520	−4.55450	−8.1719	−9.6461	−15	N606P
	45	—	—	—	—	—	—	—	—	—	—
	30	−0.72008	−4.88363	−4.07625	−13.4423	−4.44743	−7.8383	−7.3729	−13.4843	−30	3010P

Tablo 4.2		Dokuz eşdeğer boyuna yelpaze kablo veya kablo grubu						Düğüm No.6			
$\frac{\bar{B}}{\bar{L}}$	φ	Ortak çarpan: $P f \frac{\bar{L}}{\bar{L}}$			Ortak çarpan: P/B			(*) M_η	(*) S_η	(*) θ	Ref. Tab. No
		M_{11}	M_{22}	M_{12}	S_{11}	S_{22}	S_{12}				
—	(°)	kNm/m			kN/m			kNm/m	kN/m	(°)	—
1.6	60	−1.38298	−8.8881	−0.20660	−0.58135	−9.9007	−2.1666	−8.4886	−10.3597	−15	N609F
	45	−1.65108	−8.68270	−0.23767	−1.90115	−10.7675	−3.65958	−7.8210	−12.0567	−22.5	N452F
	30	−2.0476	−8.7955	−0.4456	−4.43963	−14.2643	−4.8658	−7.4944	−16.0220	−30	3013F
1.0	60	−1.32335	−8.8774	−0.47355	0.03727	−10.588	−2.81205	−8.6081	−11.2823	−15	N608F
	45	−1.40263	−9.10283	−0.7020	−1.15253	−12.3178	−4.9108	−8.4716	−14.1551	−22.5	N451F
	30	−0.60063	−8.38367	−1.05022	−4.77148	−14.684	−8.0633	−7.3474	−19.1139	−30	3012F
0.67	60	—	—	—	—	—	—	—	—	—	—
	45	−0.96374	−8.79278	−1.97653	−2.31372	−9.7368	−6.59813	−9.0438	−13.3153	−22.5	N453F
	30	—	—	—	—	—	—	—	—	—	—
0.60	60	−0.91991	−8.8184	−1.29528	0.4243	−9.86585	−3.40693	−8.9369	−10.880	−15	N607F
	45	−0.81749	−8.46625	−2.36098	−1.26968	−9.21745	−6.92665	−9.0156	−12.9514	−22.5	N454F
	30										

(*) Hampe[10] nin öngördüğü θ açısı ile izdüşüm kuvvetleri alınmıştır.

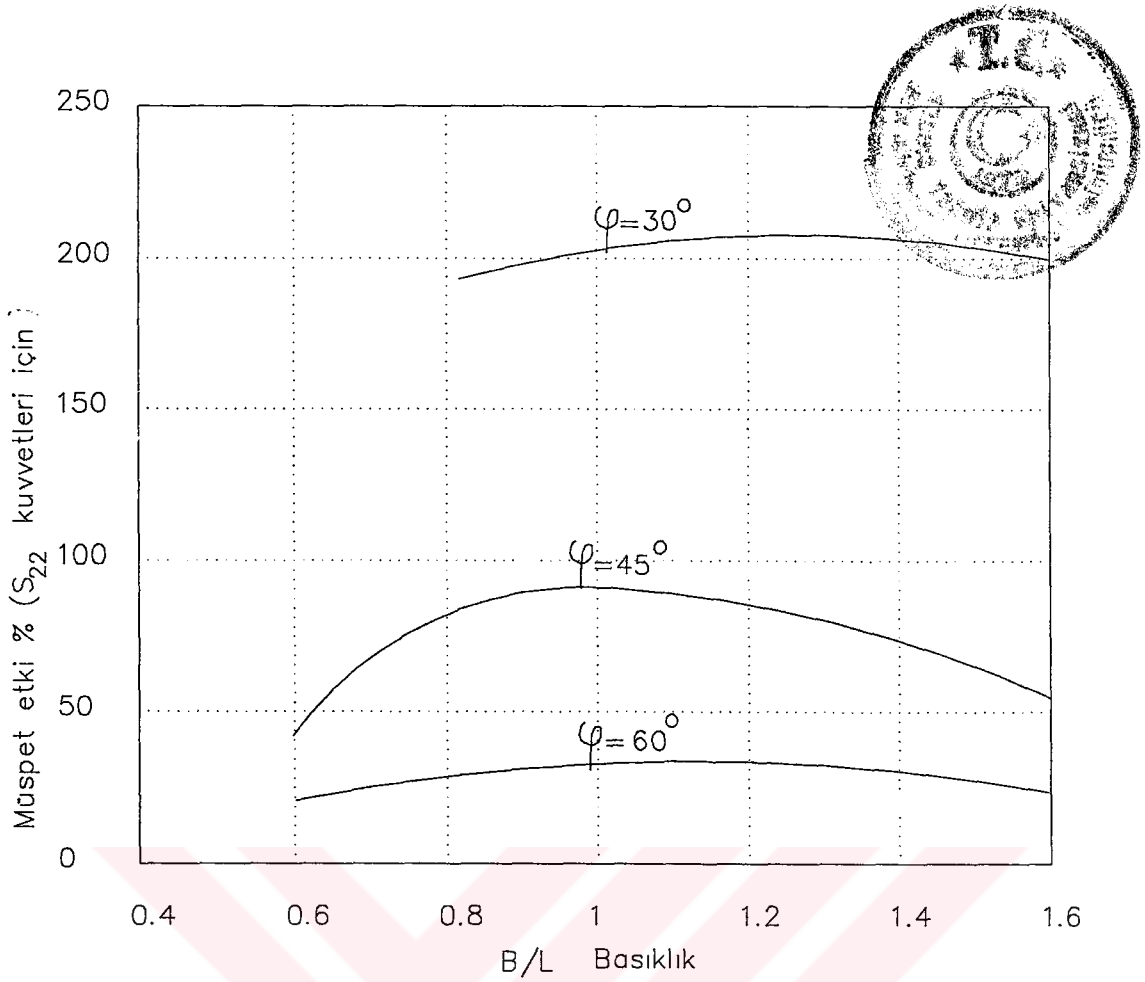
Tablodan da izleneceği gibi M_{22} üzerinde müspet etki; B/L basıklık oranı ve verevlikle $(90 - \varphi)$ artmaktadır; yelpaze kablo düzeninin müspet etkisi %10 lardan %90 lara kadar değişebilmektedir.

Yelpaze kablo düzeninin paralel kablo düzenine oranla müspet etkisi Şekil 4.1'deki grafikten okunabilir.



Şekil 4.1 Yelpaze kablo düzeninin paralel kablo düzenine oranla müspet etkisi

Aynı müspet etki normal kuvvet (S_{22}) üzerinde de izlenebilir; bununla beraber S_{22} üzerindeki hesaplanan etkilerin fazla stabil olmadığı ve özellikle verevlik $(90 - \varphi)$ ile hesap stabilitesinin azaldığı gözlenmiştir. Bu, verevliğin artmasının aynı zamanda etkin basıklığın (etkin basıklık $=B/L*\sin\varphi$) da artması sebebiyle izah edilebilir.



Şekil 4.2 Yelpaze kablo düzeninin paralel kablo düzenine oranla müspet etkisi

4.3 YÜKLEME TİPİ - ASAL KESİT TESİRİ DÜZLEMİ İLİŞKİLERİ

Literatüre göre[10], üniform düşey yükler için maksimum eğilme momentlerinin yer aldığı kesitin normali, x ekseni ile, yaklaşık $(90+\varphi)/2$ açısını yapar. Bir başka deyişle, M_{max} için ξ ekseninin x ekseni ile yapacağı açı:

$$\theta = \varphi/2 - 45^{\circ}$$

olur.

$|M|_{max}$ 'u veren θ açılarının bu çalışmada elde edilen değerleri Tablo 4.4'de işaret edilmiştir. Tablodan da izleneceği gibi, büyük verevlik açılarında (verevlik açısı = $90 - \varphi > 60^{\circ}$) ve B/L basıklığının yaklaşık 0.5 ve daha küçük değerleri için, bu varsayım makûl gözükmektedir. Küçük verevlik açılarında Tablo 4.4'de verilen değerlere itibar edilmesi tavsiye olunur.

Tablo 4.3		9 boyuna kablo halleri					
$\frac{\bar{B}}{\bar{L}}$	φ (°)	Ortak carpan: $Pf\frac{\bar{L}}{L}$			Ortak çarpan: P/B		
		M_{22}			S_{22}		
		Paralel kablo	Yelpaze kablo	Müspet etki (%)	Paralel kablo	Yelpaze kablo	Müspet etki (%)
1.60	60	−7.73185	−8.8881	14.95	−7.83547	−9.9007	26.36
	45	−6.4050	−8.6827	35.56	−6.5244	−10.7675	65.03
	30	−4.58015	−8.7955	92.03	−4.7495	−14.2643	200.33
1.0	60	−7.91525	−8.8774	12.16	−7.79795	−10.588	35.78
	45	−6.92985	−9.10283	31.36	−6.4747	−12.31775	90.24
	30	−5.5037	−8.38367	52.33	−4.7647	−14.584	206.08
0.67	60	—	—	—	—	—	—
	45	−7.11295	−8.79278	23.62	−6.39775	−9.7368	52.19
	30	—	—	—	—	—	—
0.60	60	−13.305	–	–	−7.75838	−9.86585	27.16
	45	−7.04947	−8.46625	20.10	−6.36698	−9.21745	44.77

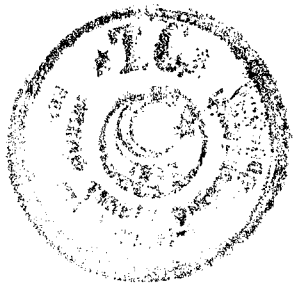
Tablo 4.4 Yükleme tipi – θ ilişkileri (Eğilme momentleri için)

Dokuz boyuna kablo Düğüm no: i=6

$\frac{B}{L}$	φ (°)	θ (°) Paralel kablo	Yelpaze kablo	Üniform düşey yük	Literatürde verilen	Açıklama
1.6	60	−1.2301	−1.5756	−0.7659	−15	Sapma büyük
	45	−1.6496	−1.9337	−0.8989	−22.5	"
	30	−2.1456	−3.7618	−0.8420	−30	"
1.0	60	−2.9763	−3.5731	−2.8792	−15	Sapma büyük
	45	−4.7263	−5.1667	−4.5943	−22.5	"
	30	−7.6335	−7.5514	−7.5398	−30	"
0.67	60	–	–	–		
	45	−11.9136	−13.3951	−11.9140	−22.5	Sapma büyük
	30	–	–	–		
0.60	60	−7.8824	−9.0793	−7.8806	−15	Sapma büyük
	45	−13.9565	−15.8445	−13.9571	−22.5	"
	30	−23.0640	–	−26.5414	−30	Yaklaşım iyi
0.40	60	−11.4179	–	−11.4192	−15	Sapma büyük
	45	–	–	−19.9369	−22.5	"
	30	−31.4731	–	−31.4235	−30	Yaklaşım çok iyi

BÖLÜM 5

T A B L O L A R



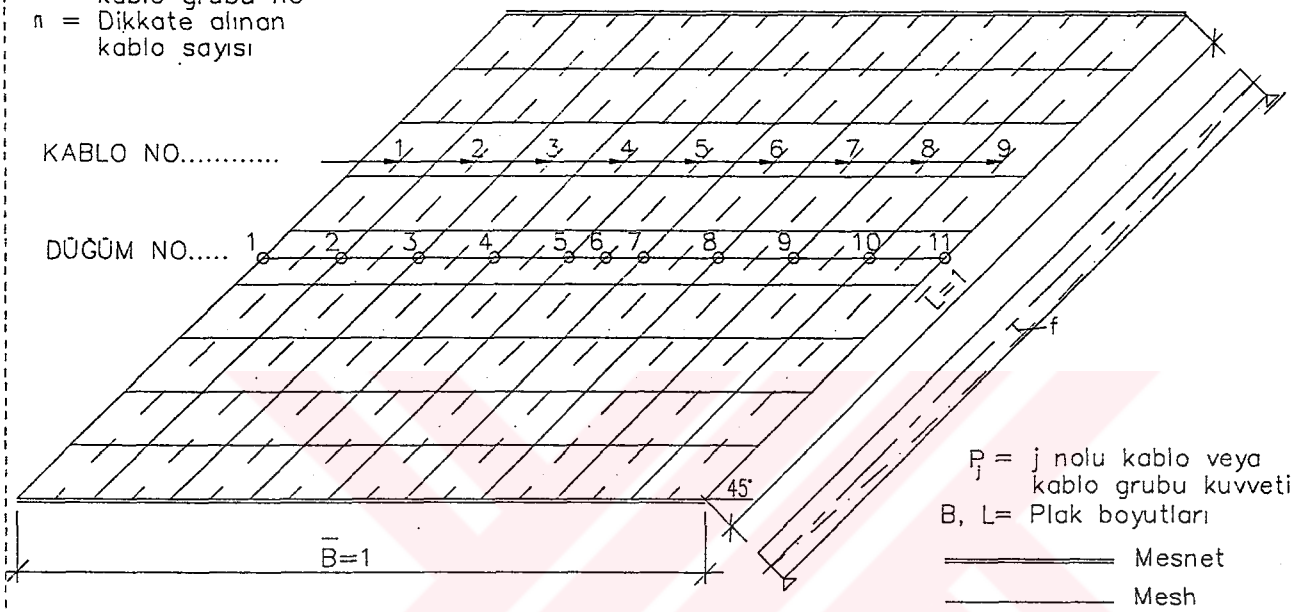
5.1 SERBEST KENARLARA PARALEL KABLO DÜZENİ İÇİN TESİR SAYILARI

N451P — m11 TESIR SAYILARI

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.31252	-0.19319	-0.12121	-0.05105	0.01067	0.04885	0.06871	0.07913	0.08721	-0.38341
2	-0.11436	-0.26240	-0.14491	-0.05169	0.01324	0.05547	0.07592	0.08572	0.09319	-0.24982
3	0.24484	-0.14897	-0.27353	-0.13621	-0.03270	0.03490	0.07840	0.10328	0.12132	-0.00867
4	0.39733	0.08737	-0.24707	-0.32433	-0.15414	-0.02374	0.06989	0.13632	0.18681	0.12844
5	0.36679	0.16870	-0.05678	-0.31096	-0.34170	-0.15474	0.01431	0.16029	0.28220	0.12813
6	0.32508	0.16095	-0.01885	-0.23223	-0.35284	-0.23253	-0.01907	0.16087	0.32512	0.11649
7	0.28216	0.16025	0.01424	-0.15487	-0.34167	-0.31079	-0.05680	0.16851	0.36654	0.12757
8	0.18675	0.13630	0.06990	-0.02371	-0.15415	-0.32440	-0.24716	0.08723	0.39713	0.12789
9	0.12129	0.10327	0.07840	0.03491	-0.03270	-0.13628	-0.27369	-0.14918	0.24450	-0.00947
10	0.09317	0.08570	0.07590	0.05546	0.01323	-0.05173	-0.14506	-0.26267	-0.11473	-0.25073
11	0.08722	0.07915	0.06874	0.04888	0.01071	-0.05103	-0.12123	-0.19333	-0.31266	-0.38356

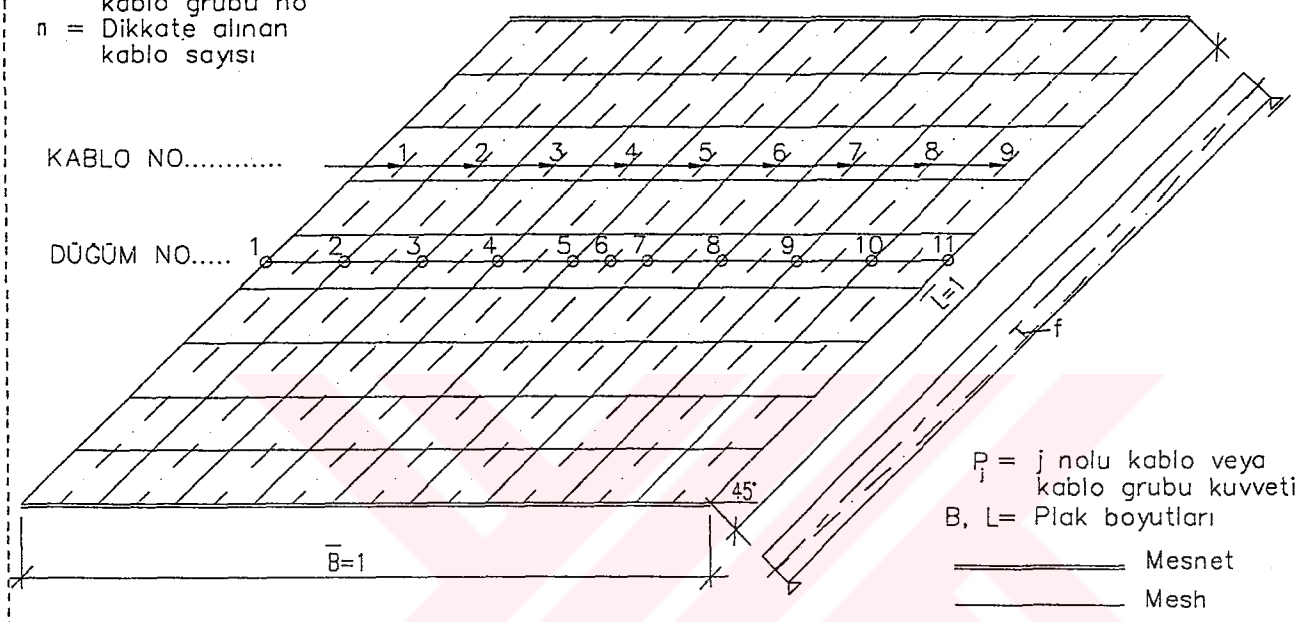
N451P

m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

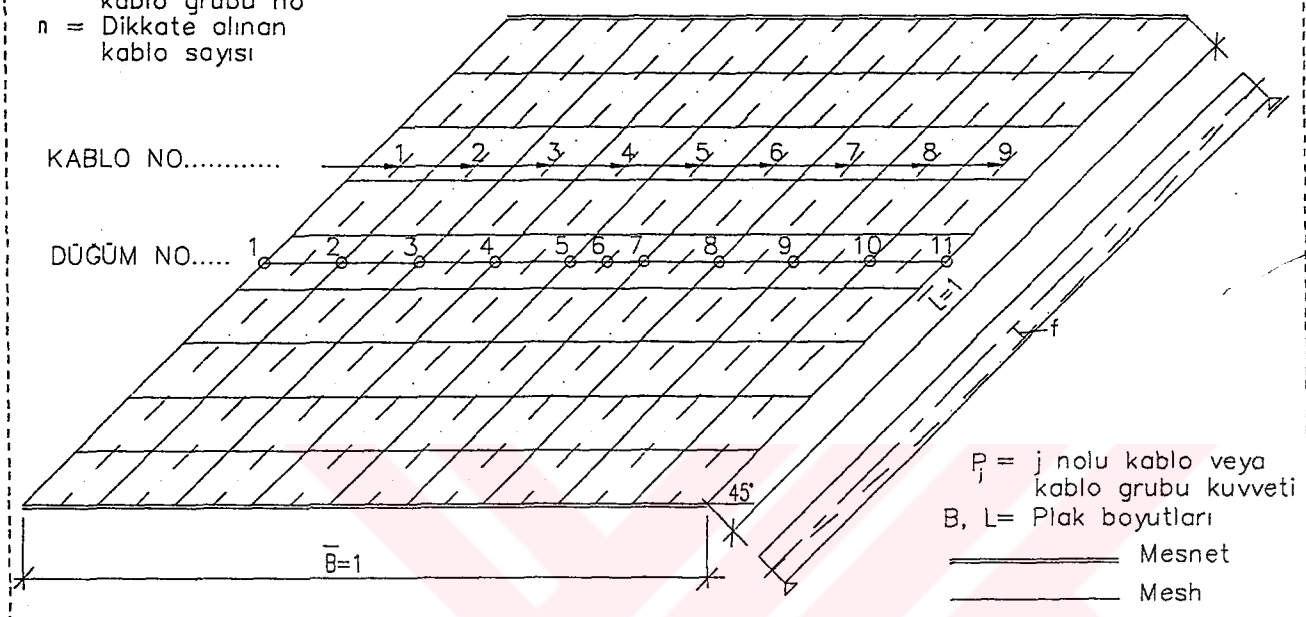
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.29270	-1.09020	-0.78919	-0.56931	-0.40474	-0.28614	-0.20417	-0.14873	-0.11182	-4.89690
2	-1.31098	-1.14648	-0.95508	-0.72402	-0.54292	-0.40046	-0.29308	-0.21632	-0.16396	-5.75330
3	-1.22625	-1.15370	-1.03940	-0.88100	-0.68170	-0.52564	-0.40110	-0.30789	-0.24289	-6.45950
4	-0.99979	-1.02280	-1.00603	-0.94233	-0.82416	-0.65674	-0.52949	-0.42921	-0.35852	-6.76903
5	-0.73844	-0.78473	-0.87468	-0.90846	-0.87884	-0.80291	-0.68425	-0.59833	-0.53973	-6.81035
6	-0.64433	-0.69230	-0.77667	-0.88285	-0.93624	-0.88294	-0.77694	-0.69269	-0.64487	-6.92985
7	-0.53956	-0.59821	-0.68420	-0.80296	-0.87898	-0.90840	-0.87446	-0.78457	-0.73830	-6.80963
8	-0.35844	-0.42915	-0.52947	-0.65676	-0.82428	-0.94242	-1.00588	-1.02261	-0.99976	-6.76873
9	-0.24281	-0.30782	-0.40103	-0.52559	-0.68167	-0.88106	-1.03944	-1.15353	-1.22600	-6.45890
10	-0.16391	-0.21626	-0.29299	-0.40037	-0.54284	-0.72394	-0.95505	-1.14640	-1.31067	-5.75243
11	-0.11179	-0.14868	-0.20409	-0.28603	-0.40460	-0.56915	-0.78900	-1.09005	-1.29240	-4.89580

N451P — m12 TESIR SAYILARI

$$M_{12} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

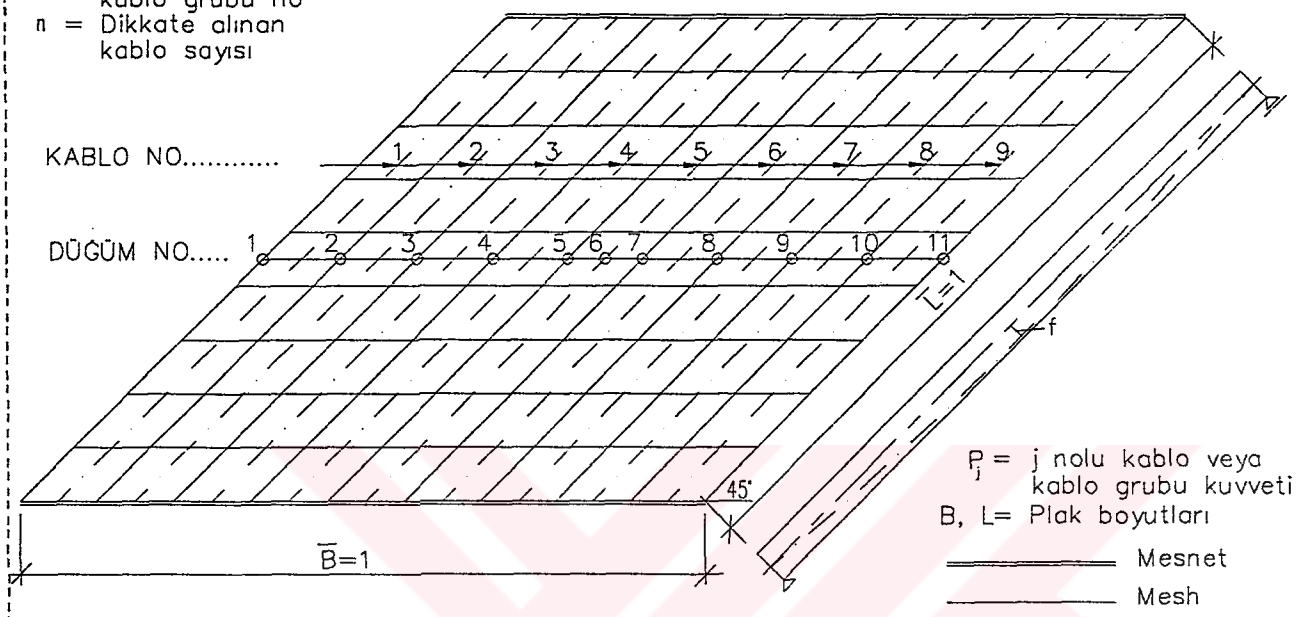
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.74300	-0.62529	-0.44419	-0.29384	-0.18235	-0.10541	-0.05638	-0.02544	-0.00466	-2.48055
2	-0.63551	-0.41562	-0.36127	-0.26889	-0.18017	-0.10857	-0.05637	-0.02135	0.00255	-2.04523
3	-0.54965	-0.27656	-0.15516	-0.17877	-0.14945	-0.10542	-0.06250	-0.02848	-0.00399	-1.50998
4	-0.35872	-0.23369	-0.05076	-0.00089	-0.07766	-0.08772	-0.07337	-0.05009	-0.02970	-0.96260
5	-0.18872	-0.15149	-0.08872	0.04326	0.05475	-0.04477	-0.07452	-0.08138	-0.07716	-0.60874
6	-0.12112	-0.10806	-0.08203	-0.00717	0.05046	-0.00736	-0.08213	-0.10809	-0.12108	-0.58658
7	-0.07730	-0.08155	-0.07472	-0.04502	0.05444	0.04293	-0.08914	-0.15209	-0.18950	-0.61195
8	-0.02953	-0.04995	-0.07327	-0.08769	-0.07772	-0.00097	-0.05080	-0.23379	-0.35897	-0.96269
9	-0.00388	-0.02837	-0.06240	-0.10534	-0.14942	-0.17881	-0.15523	-0.27658	-0.54973	-1.50980
10	0.00262	-0.02127	-0.05628	-0.10847	-0.18007	-0.26883	-0.36126	-0.41563	-0.63543	-2.04462
11	-0.00462	-0.02540	-0.05631	-0.10533	-0.18225	-0.29373	-0.44409	-0.62526	-0.74298	-2.47995

N451P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

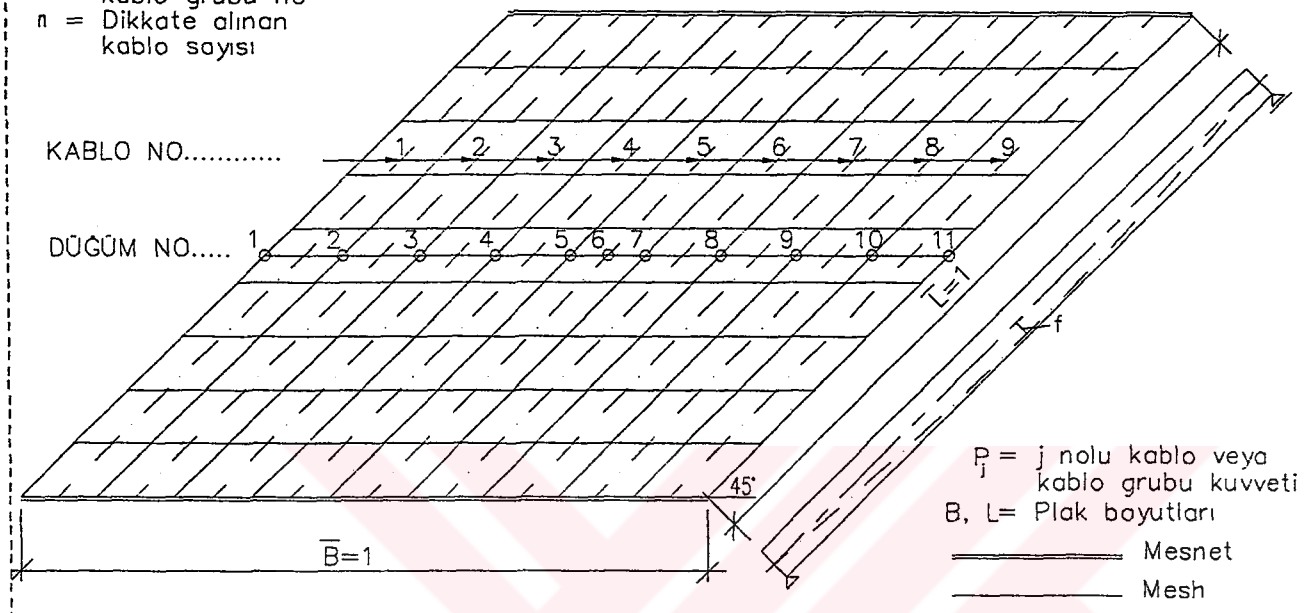
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.91780	-2.49155	-1.08760	0.06910	0.50046	0.28939	0.04390	-0.01712	-0.01864	-6.62990
2	-3.14670	-2.15363	-1.12955	-0.24886	0.18868	0.16309	-0.00636	-0.07790	-0.07574	-6.48697
3	-2.38548	-1.74018	-1.08175	-0.47935	-0.10199	-0.00178	-0.09846	-0.22562	-0.26806	-6.38267
4	-1.67738	-1.31523	-0.98885	-0.66150	-0.38585	-0.22643	-0.22692	-0.36003	-0.51378	-6.35593
5	-1.24251	-0.95735	-0.81983	-0.68926	-0.54943	-0.42870	-0.36045	-0.48352	-0.78987	-6.32090
6	-0.96602	-0.63495	-0.59495	-0.64202	-0.65650	-0.64212	-0.59551	-0.63624	-0.96748	-6.33583
7	-0.78965	-0.48352	-0.36086	-0.42943	-0.55034	-0.69028	-0.82091	-0.95821	-1.24328	-6.32648
8	-0.51352	-0.35982	-0.22661	-0.22578	-0.38485	-0.66070	-0.98879	-1.31603	-1.67948	-6.35558
9	-0.26783	-0.22536	-0.09819	-0.00134	-0.10101	-0.47829	-1.08140	-1.74090	-2.38800	-6.38230
10	-0.07560	-0.07766	-0.00595	0.16370	0.18965	-0.24781	-1.12915	-2.15435	-3.14933	-6.48650
11	-0.01856	-0.01691	0.04449	0.29036	0.50160	0.07015	-1.08720	-2.49240	-3.92070	-6.62920

N451P — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

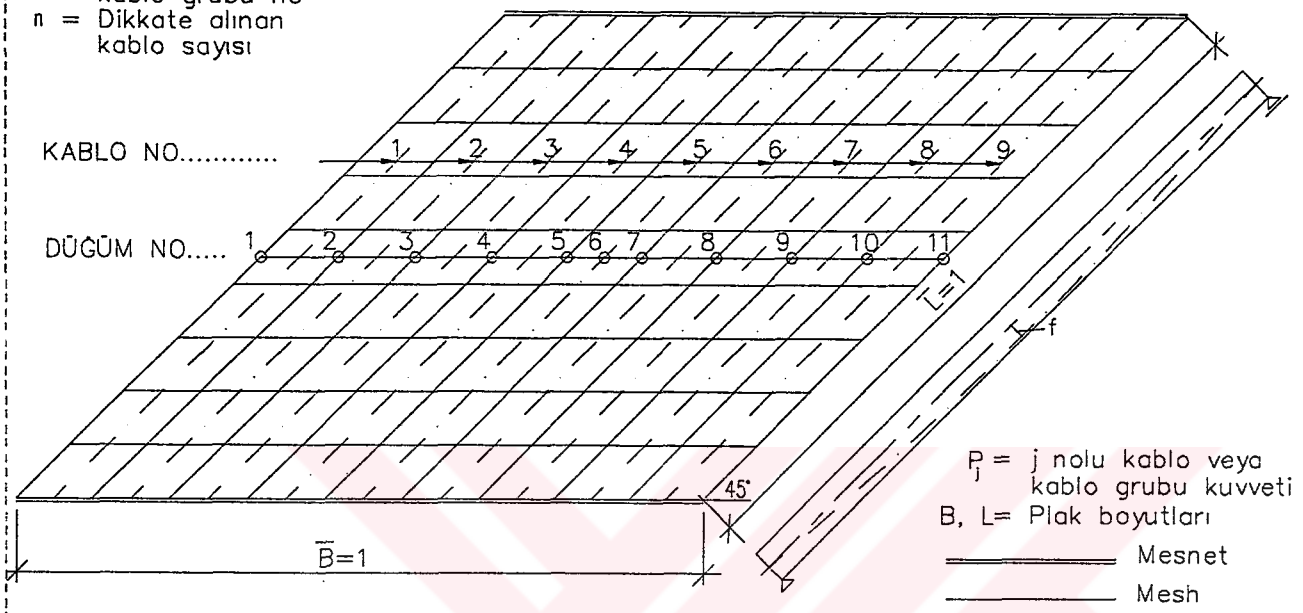
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.89320	-2.94095	-1.25240	0.21217	0.99904	0.70853	0.12115	-0.02017	0.02931	-7.03655
2	-2.02059	-1.82796	-1.54950	-1.19267	-0.53669	0.05907	0.18811	0.17889	0.23474	-6.46660
3	-1.60899	-1.34167	-1.14921	-1.08312	-1.02631	-0.59662	-0.02559	0.23157	0.39244	-6.20755
4	-1.46603	-1.12706	-0.83823	-0.71901	-0.82928	-0.91386	-0.59564	-0.08344	0.33748	-6.23502
5	-0.95410	-1.22212	-0.97110	-0.66831	-0.59734	-0.73860	-0.70075	-0.35550	-0.07414	-6.28198
6	-0.12639	-0.59324	-0.99500	-1.02012	-0.98845	-1.02053	-0.99698	-0.59868	-0.13526	-6.47470
7	-0.07209	-0.35234	-0.69776	-0.73566	-0.59397	-0.66577	-0.97095	-1.22499	-0.96150	-6.27503
8	0.33895	-0.08127	-0.59326	-0.91083	-0.82471	-0.71537	-0.83808	-1.13100	-1.47715	-6.23275
9	0.39363	0.23402	-0.02238	-0.59301	-1.02142	-1.07907	-1.14881	-1.34600	-1.62177	-6.20480
10	0.23549	0.18076	0.19147	0.06356	-0.53198	-1.18975	-1.54965	-1.83201	-2.03241	-6.46447
11	0.02992	-0.01856	0.12476	0.71383	1.00411	0.21486	-1.25270	-2.94515	-4.90515	-7.03410

N451P — s12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N451P

$S_{12} = \sum_{j=1}^{n} s_{12}^{ij} P_j / B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

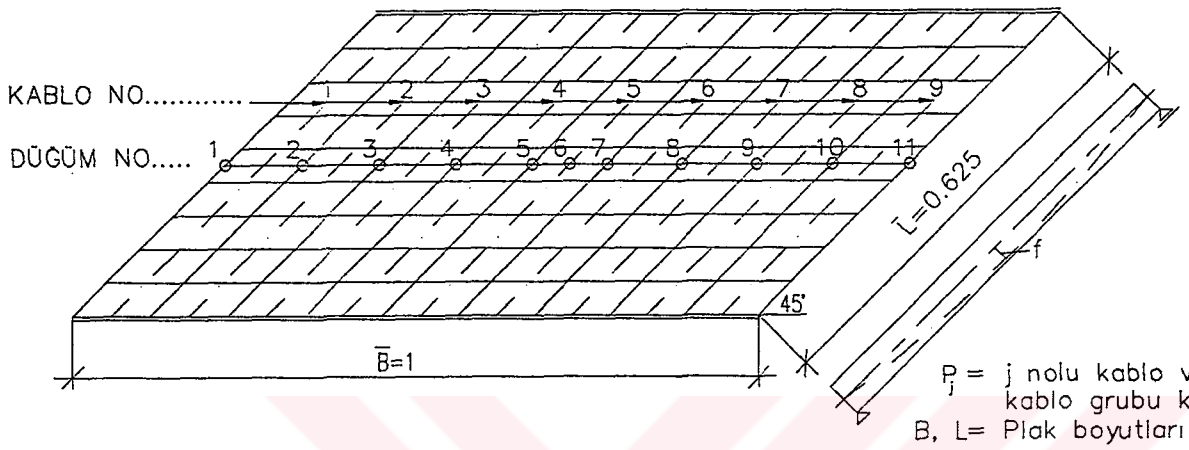
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.68710	-2.54510	-1.20530	-0.07935	0.35577	0.41636	0.38263	0.21277	0.06411	-6.08520
2	-2.88188	-2.07630	-1.32730	-0.61748	-0.08779	0.18589	0.26914	0.20489	0.11032	-6.22047
3	-1.58395	-1.52795	-1.42020	-1.19626	-0.73765	-0.23107	0.05933	0.13887	0.09764	-6.40125
4	-0.42705	-1.02753	-1.37650	-1.48772	-1.30317	-0.81328	-0.24637	0.09674	0.16595	-6.41893
5	0.30917	-0.44114	-1.09868	-1.48360	-1.56653	-1.34034	-0.86572	-0.24204	0.31319	-6.41570
6	0.23151	-0.45573	-0.95407	-1.28825	-1.40045	-1.28868	-0.95484	-0.45610	0.23224	-6.33438
7	0.31269	-0.24288	-0.86661	-1.34116	-1.56723	-1.48403	-1.09838	-0.44010	0.31162	-6.41610
8	0.16517	0.09596	-0.24714	-0.81451	-1.30520	-1.48938	-1.37653	-1.02580	-0.42249	-6.41990
9	0.09701	0.13786	0.05823	-0.23232	-0.73958	-1.19798	-1.42045	-1.52625	-1.57871	-6.40218
10	0.10985	0.20400	0.26785	0.18429	-0.08950	-0.61856	-1.32725	-2.07468	-2.87703	-6.22100
11	0.06368	0.21183	0.38099	0.41422	0.35395	-0.07997	-1.20480	-2.54335	-3.68235	-6.08585

N452P — m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{\bar{C}}$$

$\frac{\bar{B}}{\bar{L}}=1.6$	Paralel kablo	N452P

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

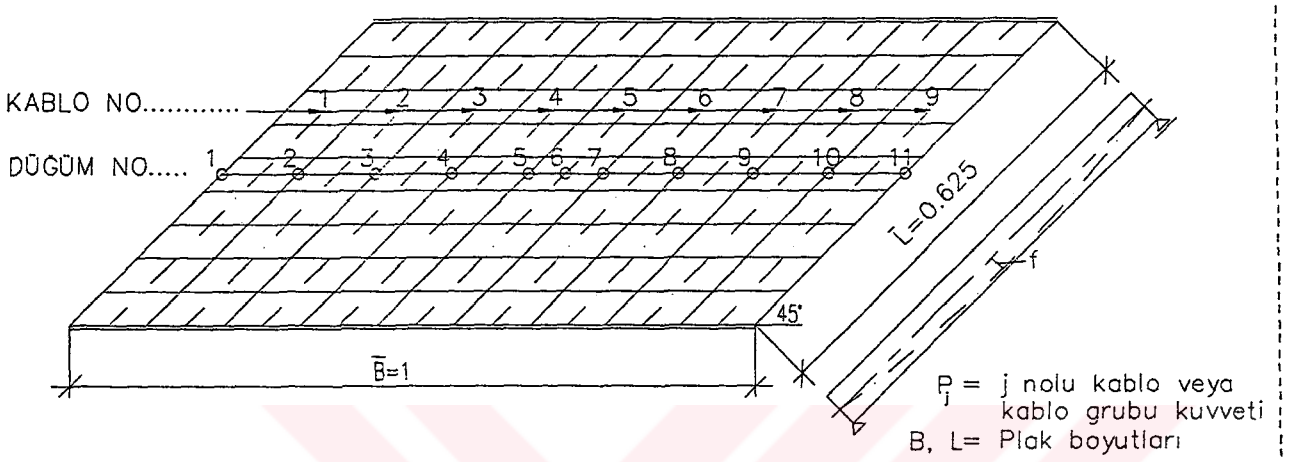
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.46337	-0.14774	-0.02274	0.04554	0.06249	0.05105	0.03469	0.02215	0.01440	-0.40354
2	-0.02180	-0.39379	-0.07437	0.05451	0.07927	0.06477	0.04312	0.02724	0.01768	-0.20338
3	0.53483	-0.32643	-0.53077	-0.11903	0.04968	0.08589	0.07157	0.05087	0.03671	-0.14668
4	0.44639	0.05640	-0.57004	-0.62817	-0.14225	0.05503	0.10224	0.09320	0.07893	-0.50828
5	0.27948	0.15737	-0.09259	-0.60397	-0.64086	-0.18315	0.04368	0.12913	0.15326	-0.75764
6	0.20925	0.13669	-0.02378	-0.36751	-0.59863	-0.36753	-0.02392	0.13668	0.20934	-0.68939
7	0.15317	0.12913	0.04378	-0.18294	-0.64073	-0.60396	-0.09263	0.15737	0.27961	-0.75722
8	0.07887	0.09315	0.10223	0.05509	-0.14215	-0.62813	-0.57010	0.05632	0.44642	-0.50830
9	0.03668	0.05085	0.07154	0.08589	0.04974	-0.11898	-0.53084	-0.32669	0.53440	-0.14740
10	0.01767	0.02723	0.04311	0.06475	0.07926	0.05452	-0.07448	-0.39421	-0.02270	-0.20485
11	0.01440	0.02215	0.03470	0.05107	0.06254	0.04560	-0.02270	-0.14800	-0.46382	-0.40406

N452P — m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N452P

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.05125	-1.41615	-0.79225	-0.42887	-0.22457	-0.11760	-0.06131	-0.03169	-0.01586	-5.13955
2	-1.97475	-1.61223	-1.14054	-0.68866	-0.39261	-0.21186	-0.11186	-0.05846	-0.02982	-6.22078
3	-1.49238	-1.49283	-1.32585	-0.97752	-0.60835	-0.35865	-0.19981	-0.10969	-0.06004	-6.62510
4	-0.87389	-1.07002	-1.22935	-1.17718	-0.90538	-0.57641	-0.34815	-0.20287	-0.11983	-6.50307
5	-0.46306	-0.64198	-0.92303	-1.13850	-1.10005	-0.85957	-0.58075	-0.37487	-0.24312	-6.32493
6	-0.34340	-0.49711	-0.72676	-1.03277	-1.20515	-1.03239	-0.72671	-0.49717	-0.34353	-6.40500
7	-0.24302	-0.37477	-0.58073	-0.85971	-1.10028	-1.13835	-0.92277	-0.64201	-0.46316	-6.32475
8	-0.11980	-0.20281	-0.34810	-0.57642	-0.90560	-1.17740	-1.22915	-1.06987	-0.87401	-6.50313
9	-0.06001	-0.10965	-0.19975	-0.35858	-0.60829	-0.97768	-1.32603	-1.49263	-1.49225	-6.62483
10	-0.02981	-0.05843	-0.11181	-0.21178	-0.39249	-0.68850	-1.14054	-1.61220	-1.97425	-6.21980
11	-0.01586	-0.03168	-0.06128	-0.11754	-0.22443	-0.42861	-0.79179	-1.41570	-2.05045	-5.13735

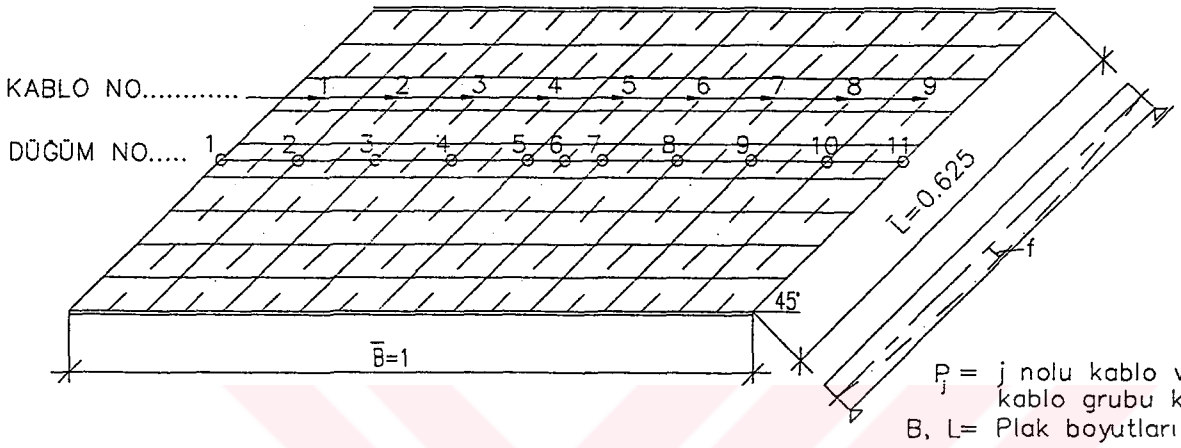
N452P

m12 TESIR SAYILARI

$$M_{12}^{i}=\sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}}=1.6$	Paralel kablo	N452P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

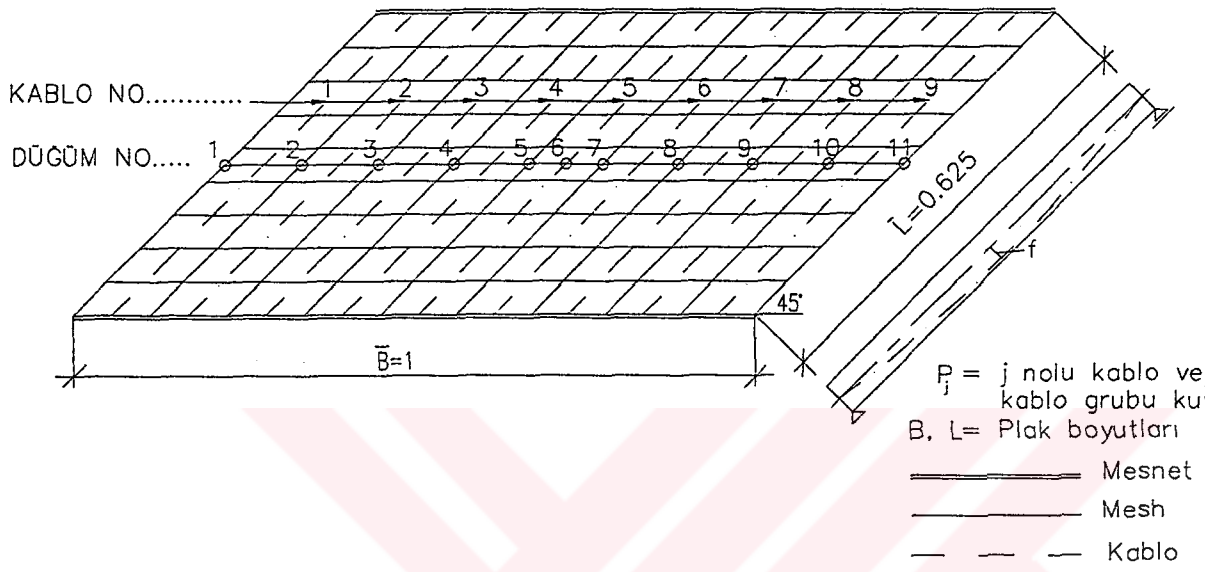
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.09530	-0.76031	-0.39117	-0.17008	-0.06382	-0.02129	-0.00630	-0.00097	0.00125	-2.50800
2	-0.79698	-0.38660	-0.33048	-0.18443	-0.07624	-0.02324	-0.00433	0.00126	0.00301	-1.79802
3	-0.48696	-0.10894	0.00586	-0.12726	-0.09431	-0.04350	-0.01364	-0.00256	0.00117	-0.87014
4	-0.16098	-0.12453	0.10352	0.11966	-0.07534	-0.07403	-0.03578	-0.01082	-0.00050	-0.25880
5	-0.03768	-0.07578	-0.07302	0.12690	0.13475	-0.05322	-0.05592	-0.02473	-0.00199	-0.06069
6	-0.00993	-0.04135	-0.06735	-0.00037	0.07378	-0.00028	-0.06747	-0.04158	-0.01019	-0.16474
7	-0.00181	-0.02454	-0.05576	-0.05321	0.13466	0.12691	-0.07308	-0.07606	-0.03806	-0.06093
8	-0.00041	-0.01069	-0.03561	-0.07389	-0.07537	0.11954	0.10348	-0.12476	-0.16159	-0.25929
9	0.00122	-0.00248	-0.01352	-0.04333	-0.09417	-0.12732	0.00566	-0.10916	-0.48753	-0.87065
10	0.00304	0.00130	-0.00426	-0.02312	-0.07607	-0.18425	-0.33045	-0.38668	-0.79704	-1.79753
11	0.00126	-0.00096	-0.00627	-0.02122	-0.06369	-0.16987	-0.39089	-0.76012	-1.09515	-2.50695

N452P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L}=1.6$	Paralel kablo	N452P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.13875	-1.98730	0.25327	0.55938	0.12155	-0.03156	-0.06825	-0.01717	0.00588	-6.30295
2	-3.85347	-1.92383	-0.39008	0.10877	-0.03550	-0.11950	-0.08764	-0.03039	0.00140	-6.33028
3	-2.41505	-1.59270	-0.94138	-0.48902	-0.32748	-0.27276	-0.19314	-0.08937	-0.02757	-6.34848
4	-1.38989	-1.12145	-1.07868	-0.94284	-0.67683	-0.45401	-0.34068	-0.22914	-0.12185	-6.35538
5	-0.84849	-0.68808	-0.84003	-1.09936	-1.02258	-0.66885	-0.44157	-0.38816	-0.32487	-6.32198
6	-0.54958	-0.49773	-0.56738	-0.94323	-1.19205	-0.94286	-0.56657	-0.49705	-0.55102	-6.30745
7	-0.32408	-0.38823	-0.44225	-0.66917	-1.02206	-1.09871	-0.83944	-0.68762	-0.85041	-6.32193
8	-0.12164	-0.22863	-0.34049	-0.45408	-0.67601	-0.94152	-1.07803	-1.12190	-1.39277	-6.35508
9	-0.02765	-0.08884	-0.19223	-0.27212	-0.32676	-0.48769	-0.94033	-1.59328	-2.41890	-6.34780
10	0.00117	-0.03019	-0.08658	-0.11780	-0.03444	0.10959	-0.38887	-1.92408	-3.85823	-6.32943
11	0.00559	-0.01710	-0.06718	-0.02930	0.12282	0.55978	0.25463	-1.98730	-5.14415	-6.30215

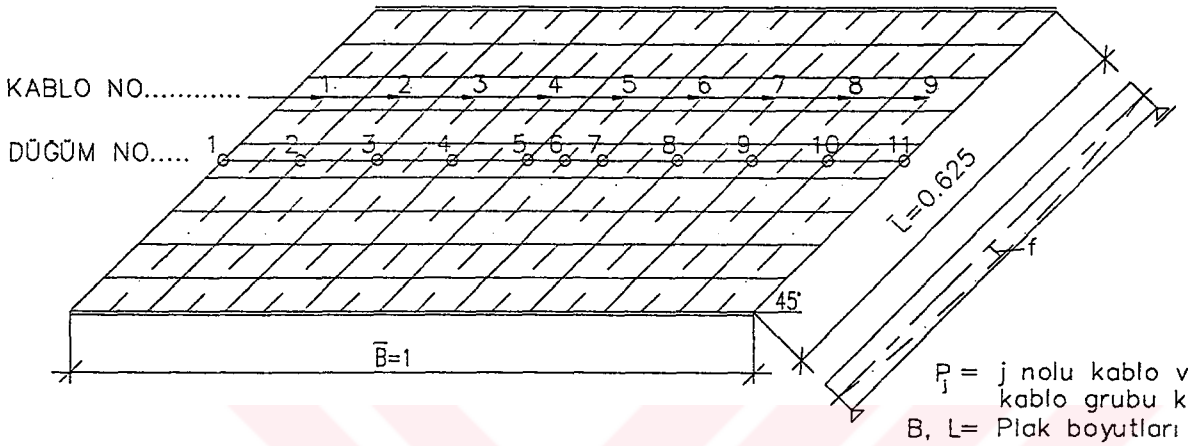
N452P

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N452P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

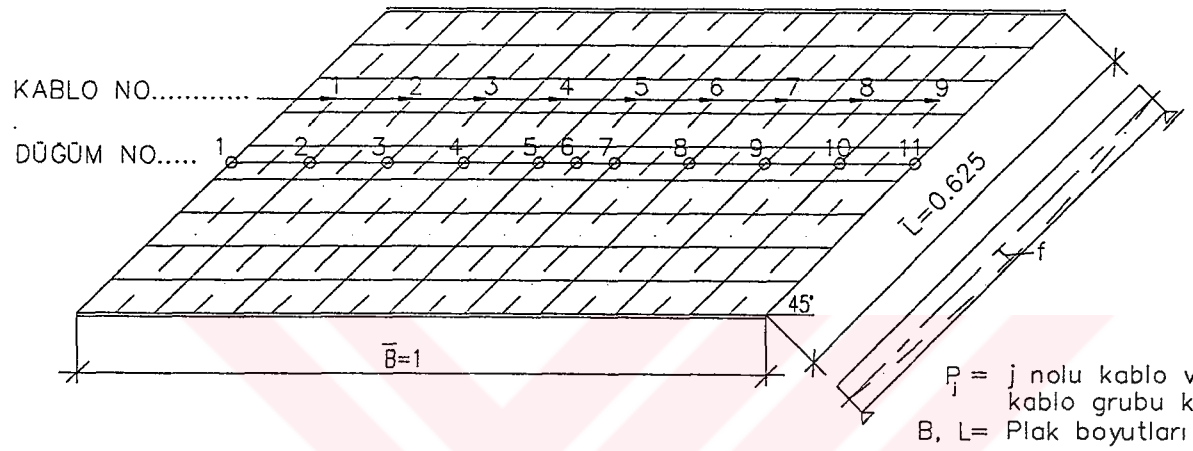
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-6.15865	-2.46590	0.26230	1.10193	1.03755	0.42555	-0.17022	-0.05844	0.00609	-6.01980
2	-2.68963	-2.19445	-1.69170	-0.71817	0.39575	0.56467	0.09549	-0.03748	-0.01078	-6.28633
3	-1.75840	-1.47328	-1.46410	-1.60027	-0.84108	0.37244	0.47925	0.12243	-0.06059	-6.22355
4	-0.65044	-1.53082	-1.27053	-1.13427	-1.40588	-0.76723	0.24819	0.35942	-0.02966	-6.18130
5	0.21805	-1.13721	-1.55120	-1.08120	-1.11204	-1.42845	-0.64410	0.29773	0.04688	-6.39158
6	0.36346	-0.30030	-1.36010	-1.42791	-1.07765	-1.42390	-1.35532	-0.29878	0.35609	-6.52440
7	0.05013	0.29847	-0.64637	-1.43145	-1.11036	-1.07633	-1.54618	-1.13530	0.20632	-6.39110
8	-0.02921	0.36212	0.25079	-0.76622	-1.40202	-1.12795	-1.26636	-1.53208	-0.66824	-6.17915
9	-0.06129	0.12479	0.48452	0.37836	-0.83474	-1.59352	-1.46073	-1.47735	-1.77996	-6.21990
10	-0.01211	-0.03635	0.10094	0.57461	0.40543	-0.71162	-1.68958	-2.20000	-2.71244	-6.28110
11	0.00463	-0.05786	-0.16472	0.43740	1.04799	1.10742	0.26460	-2.47100	-6.18270	-6.01420

N452P — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N452P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

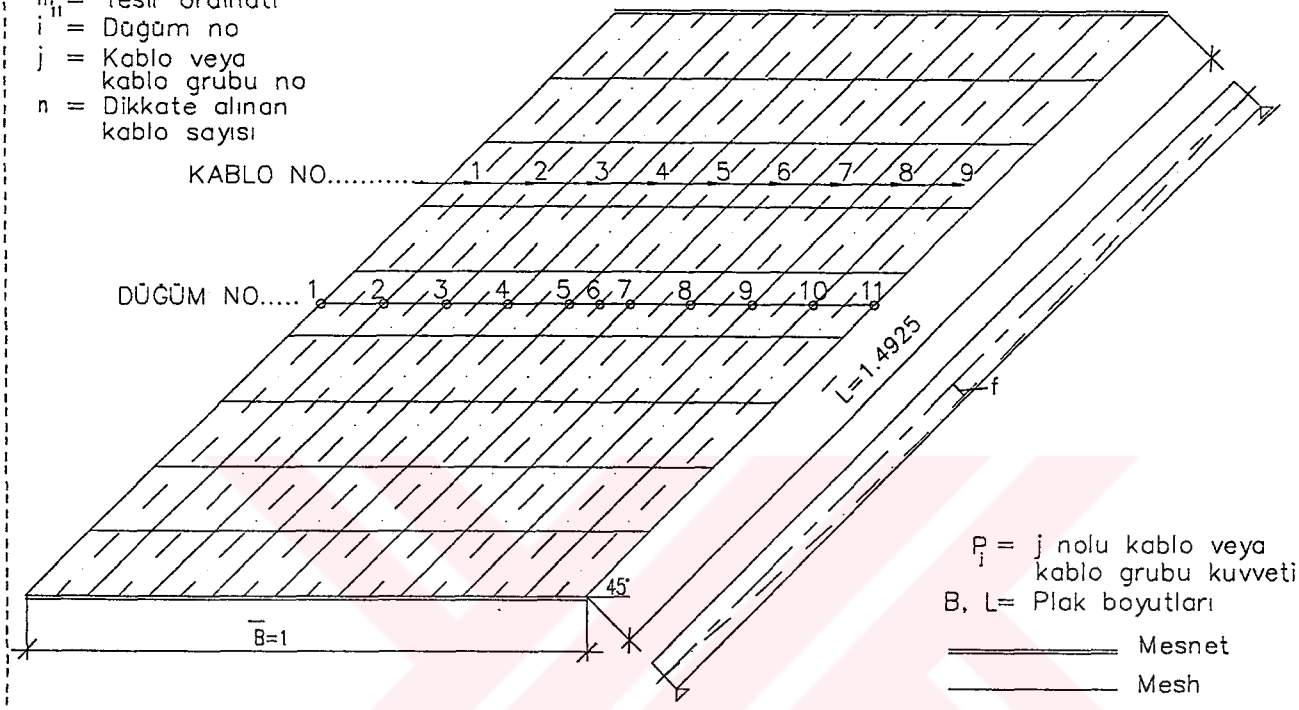
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.49165	-2.01080	0.47868	0.62033	-0.15560	-0.11512	0.10517	0.01624	-0.00836	-6.56105
2	-3.11897	-2.18643	-1.08127	-0.10194	0.01598	-0.06962	0.07871	0.03685	0.00291	-6.42378
3	-0.86664	-1.90460	-2.04755	-1.27283	-0.36347	-0.13704	-0.08355	0.01080	0.05904	-6.60583
4	0.40357	-0.96458	-2.08570	-2.24988	-1.33780	-0.29609	-0.01017	-0.01770	0.11710	-6.44125
5	0.45074	0.10004	-1.12015	-2.17033	-2.22375	-1.32425	-0.31406	0.02879	0.22871	-6.34423
6	0.28055	0.09528	-0.61691	-1.76755	-2.28155	-1.76903	-0.61889	0.09470	0.28373	-6.29965
7	0.22702	0.02865	-0.31290	-1.32328	-2.22475	-2.17225	-1.12223	0.09918	0.45600	-6.34453
8	0.11663	-0.01874	-0.01101	-0.29644	-1.33963	-2.25273	-2.08735	-0.96402	0.41097	-6.44230
9	0.05913	0.00990	-0.08540	-0.13936	-0.36610	-1.27570	-2.04925	-1.90300	-0.85774	-6.60755
10	0.00332	0.03632	0.07684	-0.07331	0.01199	-0.10460	-1.08241	-2.18453	-3.10935	-6.42570
11	-0.00787	0.01585	0.10312	-0.11950	-0.16042	0.61734	0.47826	-2.00805	-5.48205	-6.56340

N453P — m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=i}^{n} m_{11}^{ij} P_j f_i \frac{\bar{L}}{L}$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P



P_i = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.21291	-0.16354	-0.12228	-0.07427	-0.01846	0.03708	0.08855	0.13545	0.17946	-0.15091
2	-0.12424	-0.17900	-0.12904	-0.06869	-0.01395	0.04285	0.09569	0.14375	0.18871	-0.04392
3	0.05073	-0.10853	-0.15862	-0.09957	-0.03083	0.02959	0.09150	0.15009	0.20548	0.12984
4	0.18999	0.03359	-0.11205	-0.14779	-0.07562	0.00692	0.08272	0.15947	0.23448	0.37172
5	0.24763	0.12490	-0.00400	-0.11752	-0.13168	-0.05133	0.05045	0.15449	0.26062	0.53357
6	0.25516	0.13865	0.02612	-0.08732	-0.14556	-0.08731	0.02615	0.13869	0.25520	0.51979
7	0.26045	0.15431	0.05026	-0.05152	-0.13178	-0.11757	-0.00412	0.12471	0.24736	0.53210
8	0.23451	0.15950	0.08273	0.00693	-0.07563	-0.14780	-0.11201	0.03365	0.19006	0.37193
9	0.20549	0.15009	0.09150	0.02958	-0.03084	-0.09956	-0.15859	-0.10848	0.05079	0.12998
10	0.18872	0.14375	0.09570	0.04285	-0.01395	-0.06870	-0.12903	-0.17898	-0.12421	-0.04386
11	0.17946	0.13545	0.08855	0.03709	-0.01846	-0.07426	-0.12227	-0.16354	-0.21291	-0.15089

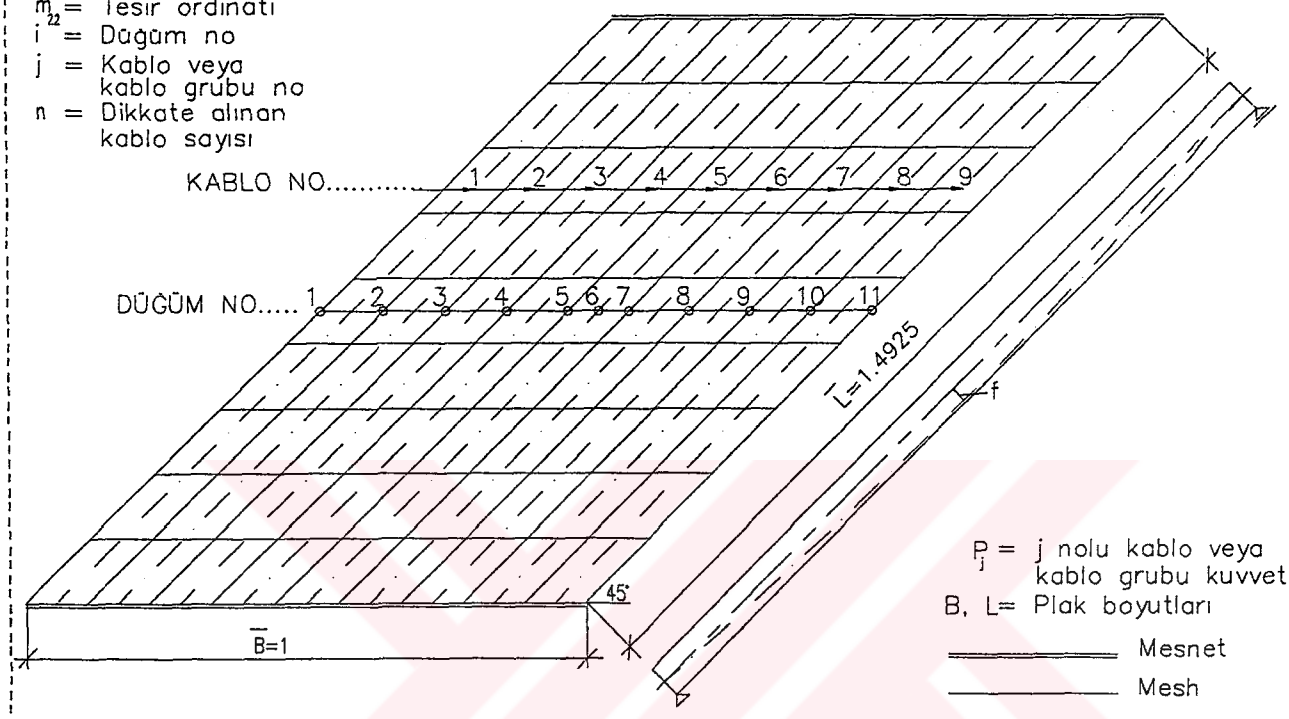
N453P

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

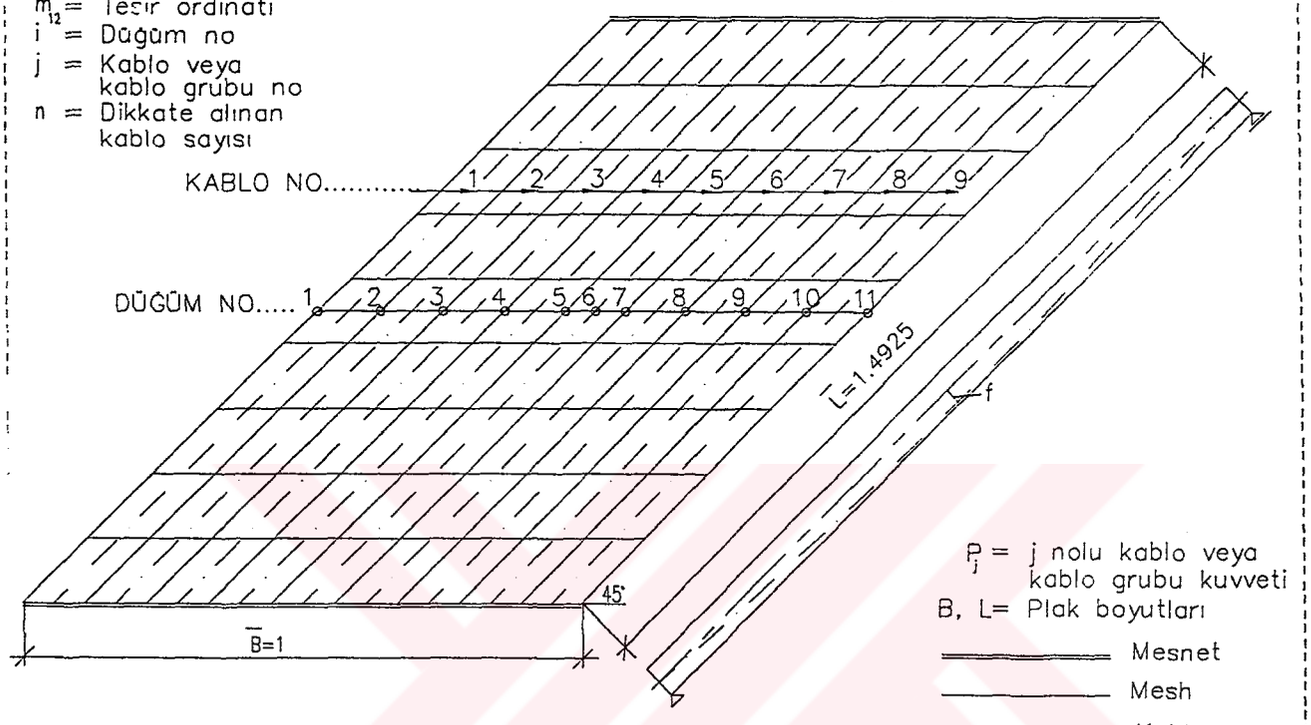
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.91244	-0.85984	-0.71433	-0.59503	-0.49946	-0.41970	-0.35631	-0.30796	-0.27319	-4.93820
2	-0.95166	-0.87492	-0.80382	-0.69063	-0.59376	-0.51447	-0.44878	-0.39687	-0.35872	-5.63363
3	-0.95453	-0.90157	-0.84611	-0.78852	-0.69175	-0.61053	-0.54567	-0.49506	-0.45859	-6.29233
4	-0.89294	-0.89567	-0.86096	-0.82561	-0.78496	-0.70608	-0.64587	-0.60089	-0.57101	-6.78400
5	-0.78794	-0.80296	-0.83498	-0.82529	-0.81387	-0.79934	-0.74896	-0.71794	-0.70357	-7.03485
6	-0.75017	-0.76217	-0.79632	-0.82884	-0.83747	-0.82902	-0.79647	-0.76228	-0.75023	-7.11295
7	-0.70344	-0.71784	-0.74889	-0.79931	-0.81377	-0.82508	-0.83470	-0.80263	-0.78757	-7.03323
8	-0.57103	-0.60091	-0.64588	-0.70608	-0.78495	-0.82562	-0.86097	-0.89567	-0.89291	-6.78400
9	-0.45860	-0.49507	-0.54568	-0.61053	-0.69176	-0.78851	-0.84610	-0.90156	-0.95450	-6.29230
10	-0.35873	-0.39687	-0.44878	-0.51448	-0.59376	-0.69063	-0.80382	-0.87491	-0.95166	-5.63365
11	-0.27319	-0.30796	-0.35630	-0.41970	-0.49947	-0.59503	-0.71434	-0.85984	-0.91245	-4.93830

N453P — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

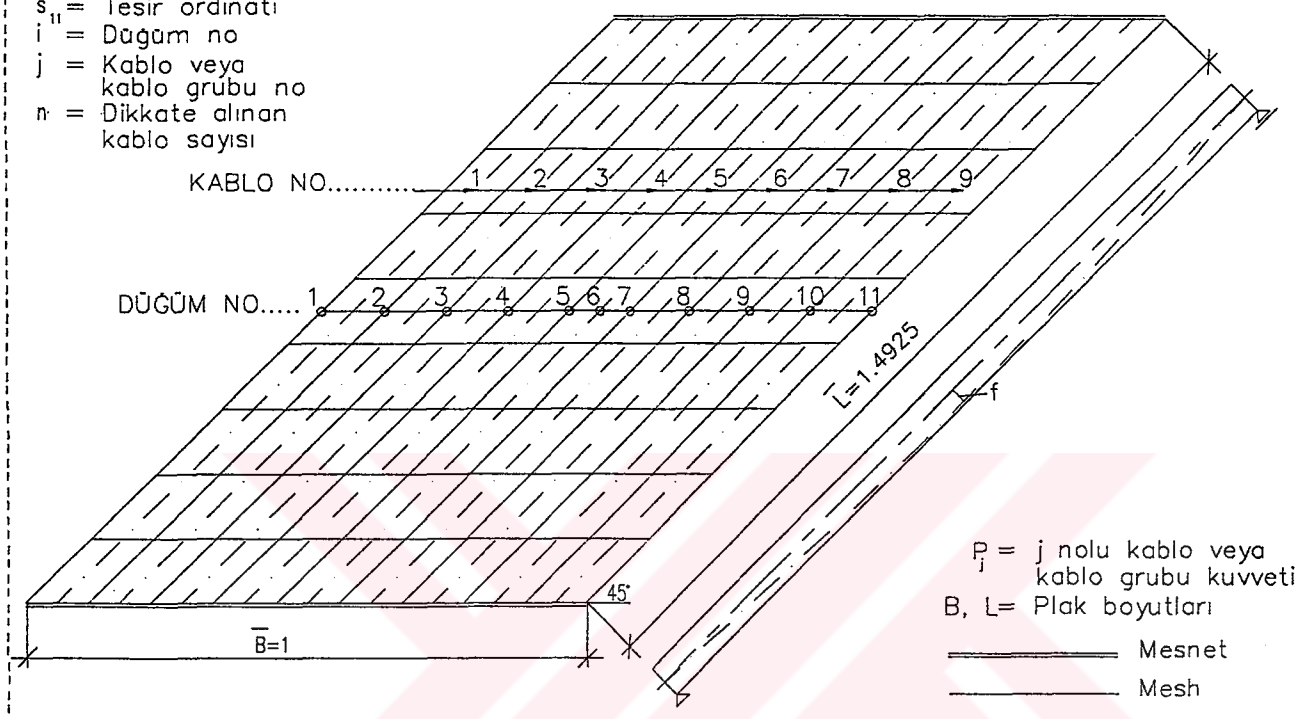
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.54266	-0.50137	-0.41141	-0.32379	-0.24784	-0.18056	-0.12347	-0.07613	-0.03699	-2.44420
2	-0.50620	-0.38942	-0.35352	-0.29724	-0.23641	-0.18070	-0.12887	-0.08294	-0.04346	-2.21875
3	-0.48922	-0.32510	-0.24137	-0.23518	-0.20834	-0.17231	-0.13700	-0.10269	-0.07165	-1.98285
4	-0.42124	-0.31431	-0.18804	-0.13839	-0.16118	-0.16171	-0.15288	-0.14141	-0.12968	-1.80883
5	-0.32145	-0.26407	-0.19704	-0.10766	-0.09376	-0.14423	-0.17031	-0.19162	-0.21050	-1.70063
6	-0.26322	-0.22465	-0.18593	-0.12615	-0.08531	-0.12628	-0.18602	-0.22466	-0.26317	-1.68538
7	-0.21106	-0.19209	-0.17072	-0.14458	-0.09403	-0.10794	-0.19738	-0.26441	-0.32180	-1.70400
8	-0.12979	-0.14149	-0.15291	-0.16170	-0.16112	-0.13833	-0.18806	-0.31432	-0.42120	-1.80893
9	-0.07170	-0.10272	-0.13701	-0.17231	-0.20832	-0.23514	-0.24135	-0.32512	-0.48924	-1.98290
10	-0.04348	-0.08295	-0.12888	-0.18071	-0.23641	-0.29723	-0.35350	-0.38940	-0.50621	-2.21875
11	-0.03699	-0.07613	-0.12347	-0.18056	-0.24784	-0.32379	-0.41140	-0.50137	-0.54265	-2.44420

N453P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

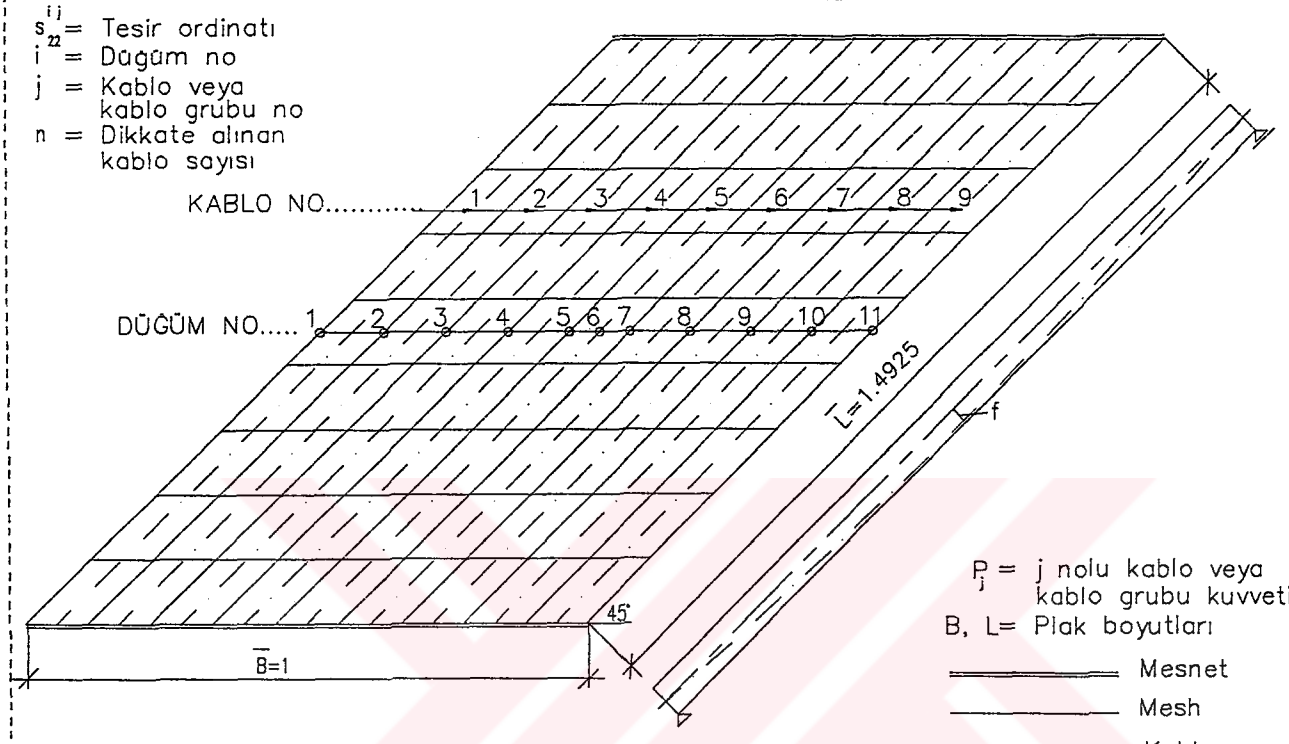
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.12740	-2.20660	-1.45415	-0.80691	-0.16077	0.28320	0.39074	0.34527	0.29791	-6.43870
2	-2.44588	-1.91413	-1.39213	-0.88889	-0.36350	0.04870	0.20586	0.19570	0.14791	-6.40633
3	-1.99595	-1.59288	-1.19940	-0.82121	-0.45977	-0.15849	-0.01142	-0.03312	-0.13294	-6.40520
4	-1.53420	-1.23822	-0.98101	-0.72824	-0.53003	-0.38583	-0.28679	-0.29250	-0.38818	-6.36500
5	-1.15204	-0.95722	-0.77765	-0.59701	-0.49538	-0.51009	-0.54763	-0.60184	-0.67227	-6.31110
6	-0.89214	-0.76398	-0.66206	-0.57355	-0.53086	-0.57353	-0.66202	-0.76401	-0.89214	-6.31428
7	-0.67208	-0.60207	-0.54818	-0.51087	-0.49634	-0.59799	-0.77856	-0.95799	-1.15280	-6.31690
8	-0.38838	-0.29270	-0.28702	-0.38607	-0.53013	-0.72814	-0.98083	-1.23791	-1.53380	-6.36503
9	-0.13306	-0.03319	-0.01148	-0.15858	-0.45384	-0.82119	-1.19930	-1.59278	-1.99580	-6.40525
10	0.14783	0.19565	0.20583	0.04867	-0.36352	-0.88887	-1.39210	-1.91405	-2.44578	-6.40635
11	0.29782	0.34520	0.39069	0.28316	-0.16081	-0.80692	-1.45415	-2.20650	-3.12725	-6.43875

N453P — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

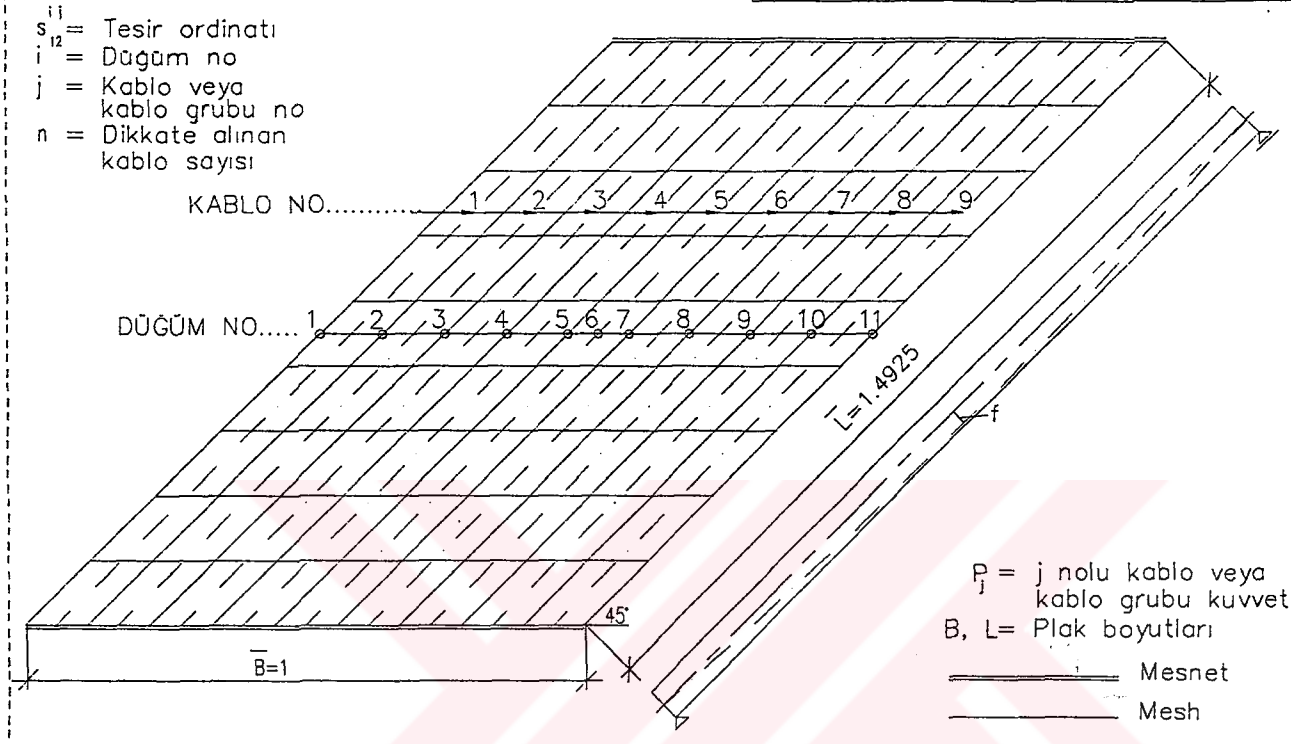
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.85865	-2.71030	-1.37370	-0.66704	0.13523	0.76934	0.77389	0.64420	0.59982	-6.68715
2	-1.73333	-1.65912	-1.46150	-1.28045	-0.93877	-0.41139	0.02705	0.35205	0.62555	-6.47985
3	-1.39235	-1.38067	-1.21968	-1.01917	-0.93798	-0.76130	-0.33451	0.10681	0.51489	-6.42398
4	-1.43020	-1.07343	-0.85267	-0.62743	-0.60798	-0.72027	-0.61274	-0.33026	0.00869	-6.24625
5	-1.09369	-0.87264	-0.65608	-0.47464	-0.35956	-0.50254	-0.72273	-0.77667	-0.76272	-6.22125
6	-0.80172	-0.62823	-0.61871	-0.73512	-0.83892	-0.73399	-0.61690	-0.62571	-0.79841	-6.39775
7	-0.76048	-0.77441	-0.72051	-0.49996	-0.35699	-0.47346	-0.65673	-0.87502	-1.09741	-6.21493
8	0.00858	-0.33012	-0.61264	-0.72032	-0.60767	-0.62702	-0.85265	-1.07375	-1.43060	-6.24618
9	0.51464	0.10680	-0.33434	-0.76133	-0.93802	-1.01900	-1.21958	-1.38070	-1.39262	-6.42418
10	0.62548	0.35202	0.02712	-0.41132	-0.93887	-1.28047	-1.46140	-1.65908	-1.73351	-6.48008
11	0.59957	0.64398	0.77369	0.76913	0.13491	-0.66722	-1.37370	-2.70995	-4.85770	-6.68730

N453P — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Paralel kablo	N453P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.07055	-2.18940	-1.83995	-1.16327	-0.49332	0.05219	0.39967	0.51320	0.52844	-6.26295
2	-2.42050	-1.94085	-1.45898	-0.89878	-0.45331	-0.13418	0.18230	0.37457	0.48405	-6.26570
3	-1.75494	-1.49233	-1.24663	-0.98907	-0.69303	-0.42054	-0.15541	0.12184	0.33012	-6.29995
4	-1.04291	-1.15158	-1.12383	-1.07687	-0.90695	-0.66094	-0.43729	-0.14662	0.15729	-6.38968
5	-0.55087	-0.77047	-0.94410	-1.04070	-1.05810	-0.90471	-0.67641	-0.41707	-0.07929	-6.44170
6	-0.35837	-0.67463	-0.83733	-0.88068	-0.86417	-0.88113	-0.83792	-0.67533	-0.35927	-6.36883
7	-0.07979	-0.41741	-0.67660	-0.90472	-1.05778	-1.04029	-0.94380	-0.77033	-0.55078	-6.44150
8	0.15769	-0.14631	-0.43697	-0.66049	-0.90649	-1.07669	-1.12397	-1.15215	-1.04409	-6.38950
9	0.33038	0.12203	-0.15526	-0.42028	-0.69270	-0.98888	-1.24668	-1.49268	-1.75579	-6.29985
10	0.48417	0.37468	0.18236	-0.13408	-0.45314	-0.89866	-1.45895	-1.94100	-2.42097	-6.26560
11	0.52857	0.51332	0.39976	0.05230	-0.49318	-1.16318	-1.83995	-2.18950	-2.07093	-6.26285

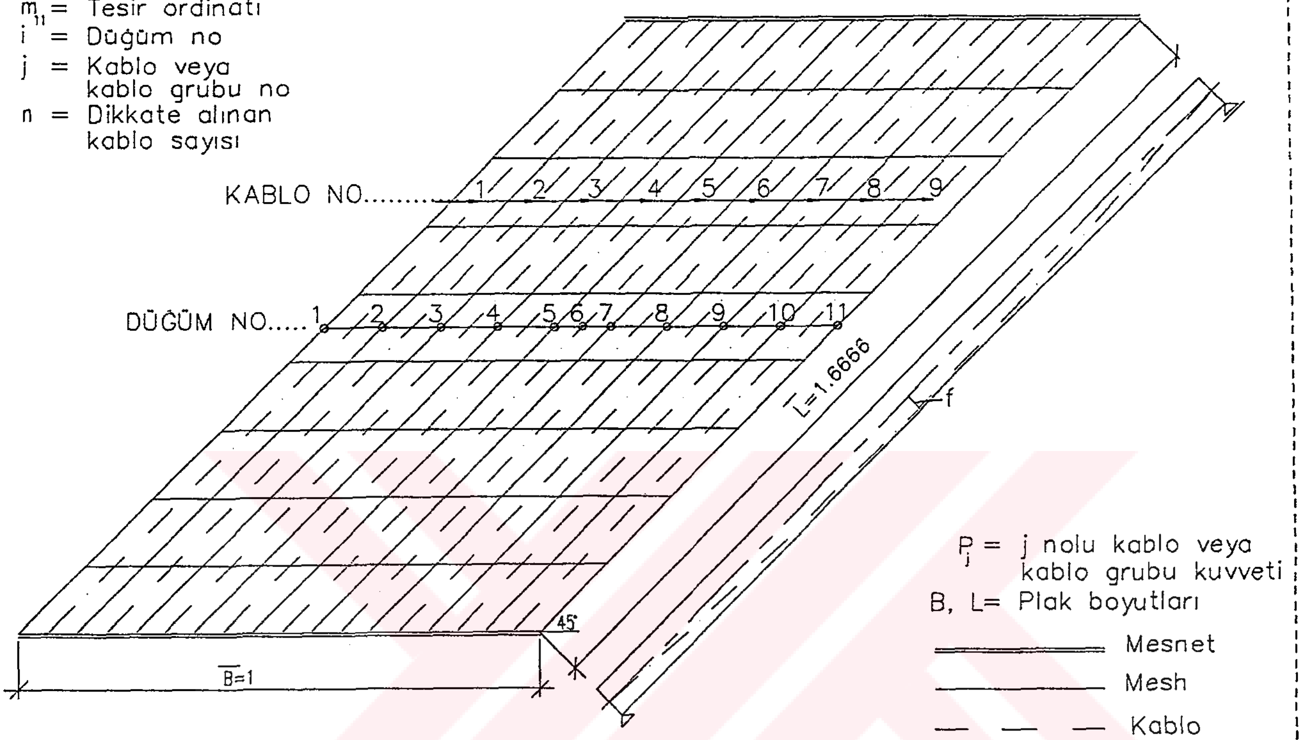
N454P

m11 TESIR SAYILARI

$\frac{\overline{B}}{\overline{L}} = 0.60$	Paralel kablo	N454P

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\overline{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.19365	-0.15252	-0.11475	-0.06973	-0.01689	0.03858	0.09328	0.14584	0.19664	-0.07320
2	-0.12295	-0.16040	-0.11898	-0.06347	-0.01155	0.04449	0.10023	0.15388	0.20573	0.02699
3	0.01683	-0.10083	-0.13566	-0.08699	-0.02393	0.03356	0.09469	0.15567	0.21544	0.16876
4	0.13864	0.01612	-0.09282	-0.11773	-0.05904	0.01467	0.08368	0.15585	0.22876	0.36814
5	0.20154	0.10292	-0.00116	-0.08705	-0.09794	-0.03602	0.05083	0.13997	0.23276	0.50587
6	0.21758	0.12049	0.02691	-0.06516	-0.11023	-0.06414	0.02722	0.12041	0.21718	0.49026
7	0.23267	0.14043	0.05177	-0.03471	-0.09784	-0.08823	-0.00251	0.10161	0.20070	0.50389
8	0.22838	0.15574	0.08379	0.01492	-0.05880	-0.11795	-0.09390	0.01449	0.13693	0.36358
9	0.21516	0.15555	0.09471	0.03369	-0.02373	-0.08703	-0.13618	-0.10188	0.01541	0.16571
10	0.20562	0.15382	0.10022	0.04452	-0.01150	-0.06339	-0.11906	-0.16075	-0.12362	0.02585
11	0.19664	0.14582	0.09326	0.03855	-0.01693	-0.06978	-0.11483	-0.15266	-0.19365	-0.07359

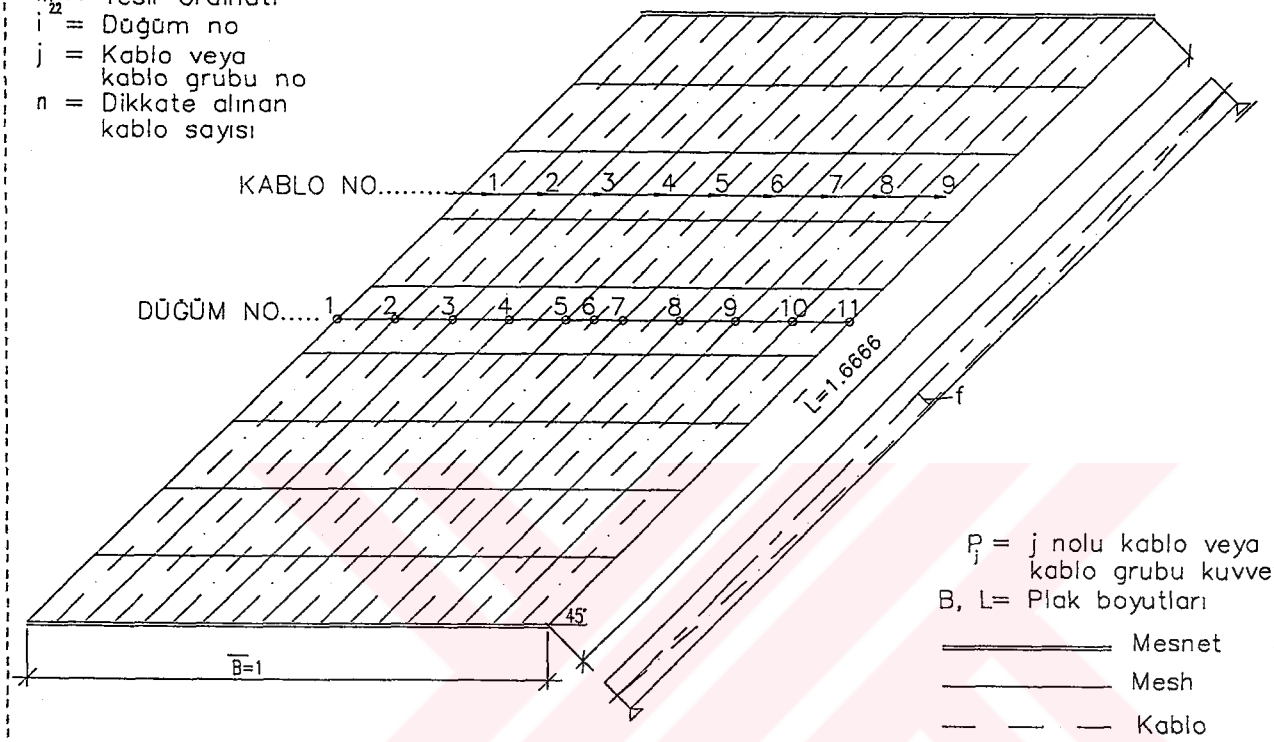
N454P

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\overline{L}}{\overline{L}}$$

$\frac{\overline{B}}{\overline{L}} = 0.60$	Paralel kablo	N454P

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

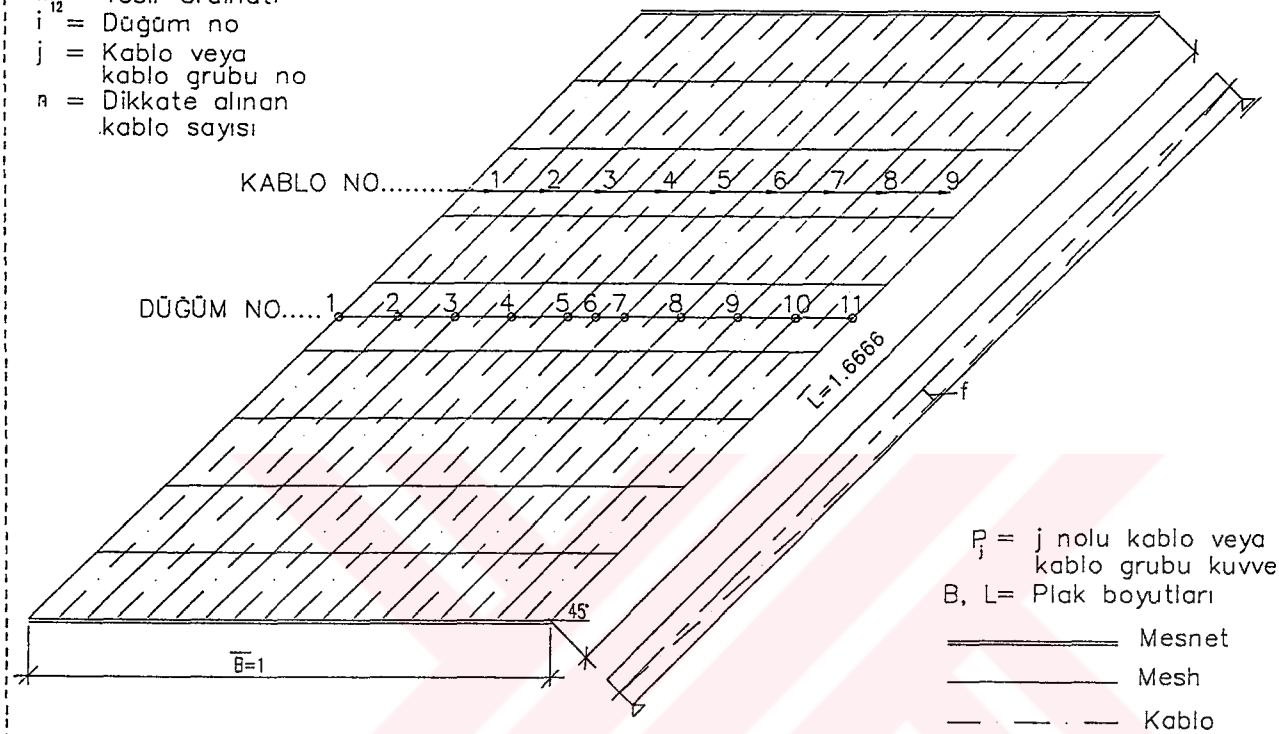
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.84657	-0.81612	-0.69943	-0.60006	-0.52077	-0.45352	-0.39910	-0.35685	-0.32615	-5.01855
2	-0.88746	-0.82623	-0.77554	-0.68565	-0.60638	-0.54211	-0.48887	-0.44682	-0.41614	-5.67520
3	-0.89840	-0.85220	-0.80903	-0.76990	-0.69471	-0.62968	-0.57879	-0.53988	-0.51271	-6.28530
4	-0.85665	-0.85972	-0.82768	-0.80062	-0.77498	-0.71466	-0.66769	-0.63387	-0.61282	-6.74870
5	-0.77768	-0.79160	-0.81674	-0.80389	-0.79740	-0.79337	-0.75506	-0.73124	-0.72159	-6.98855
6	-0.75372	-0.76340	-0.79112	-0.81243	-0.81402	-0.81126	-0.78946	-0.76183	-0.75222	-7.04947
7	-0.72005	-0.72987	-0.75386	-0.79255	-0.79756	-0.80473	-0.81779	-0.79300	-0.77936	-6.98878
8	-0.61223	-0.63338	-0.66734	-0.71447	-0.77509	-0.80081	-0.82780	-0.86013	-0.85741	-6.74865
9	-0.51237	-0.53956	-0.57853	-0.62950	-0.69463	-0.77004	-0.80923	-0.85237	-0.89882	-6.28505
10	-0.41605	-0.44673	-0.48879	-0.54205	-0.60636	-0.68569	-0.77571	-0.82639	-0.88757	-5.67533
11	-0.32620	-0.35688	-0.39912	-0.45352	-0.52074	-0.59999	-0.69932	-0.81606	-0.84647	-5.01830

N454P — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.60$	Paralel kablo	N454P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

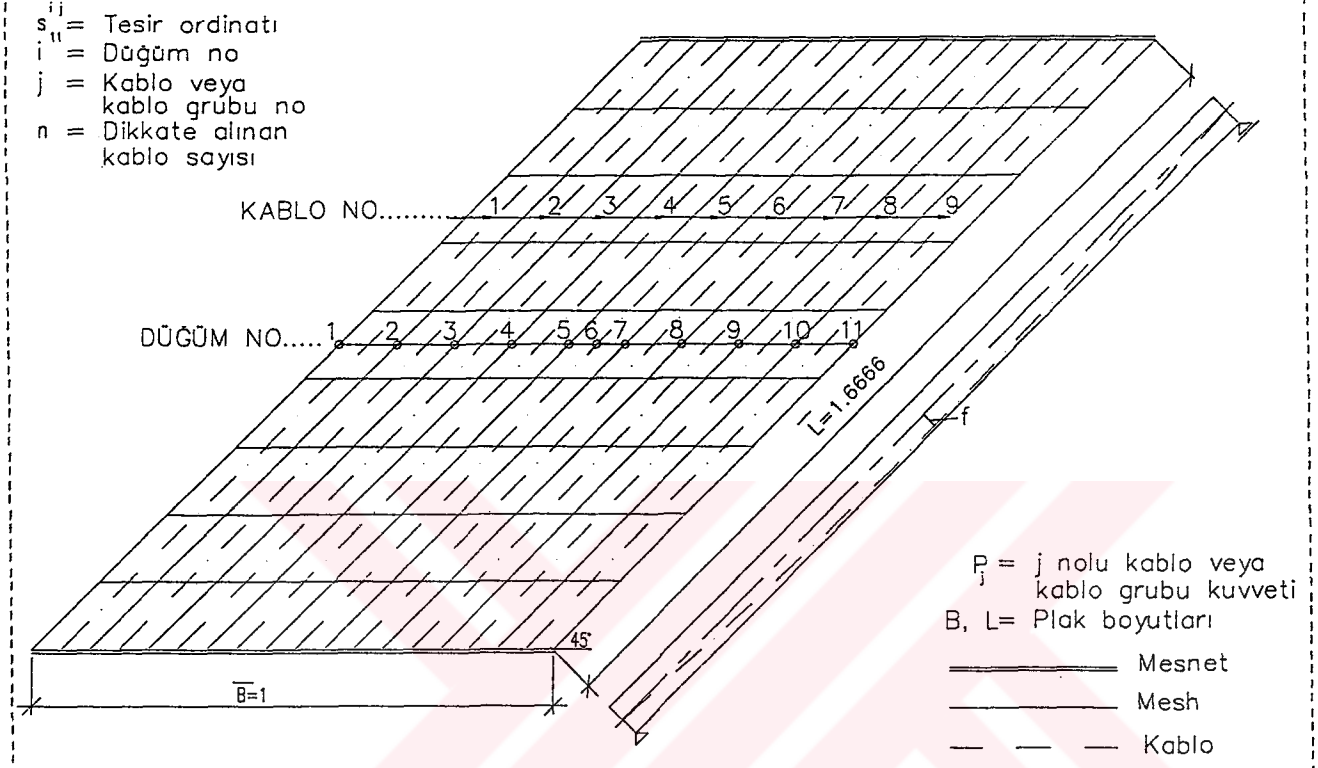
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.50631	-0.47552	-0.40112	-0.32567	-0.25902	-0.19791	-0.14366	-0.09647	-0.05591	-2.46160
2	-0.48114	-0.38288	-0.35121	-0.30317	-0.24951	-0.20004	-0.15300	-0.10984	-0.07144	-2.30223
3	-0.47147	-0.33217	-0.25863	-0.25032	-0.22721	-0.19560	-0.16536	-0.13584	-0.10856	-2.14513
4	-0.42119	-0.32753	-0.21853	-0.17271	-0.18927	-0.19103	-0.18490	-0.17788	-0.17100	-2.05402
5	-0.34010	-0.28828	-0.22844	-0.15088	-0.13705	-0.17968	-0.20527	-0.22752	-0.24932	-2.00653
6	-0.29296	-0.25569	-0.21964	-0.16579	-0.12930	-0.16538	-0.21914	-0.25573	-0.29351	-1.99713
7	-0.24596	-0.22554	-0.20466	-0.18042	-0.13807	-0.15052	-0.22792	-0.28931	-0.34259	-2.00498
8	-0.16845	-0.17622	-0.18416	-0.19125	-0.19061	-0.17385	-0.21817	-0.32712	-0.42196	-2.05180
9	-0.10713	-0.13483	-0.16480	-0.19555	-0.22769	-0.25133	-0.25933	-0.33184	-0.47109	-2.14358
10	-0.07101	-0.10950	-0.15278	-0.19998	-0.24963	-0.30351	-0.35180	-0.38320	-0.48085	-2.30225
11	-0.05597	-0.09654	-0.14372	-0.19797	-0.25909	-0.32575	-0.40122	-0.47564	-0.50635	-2.46220

N454P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.60$	Paralel kablo	N454P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları
Mesnet
Mesh
Kablo

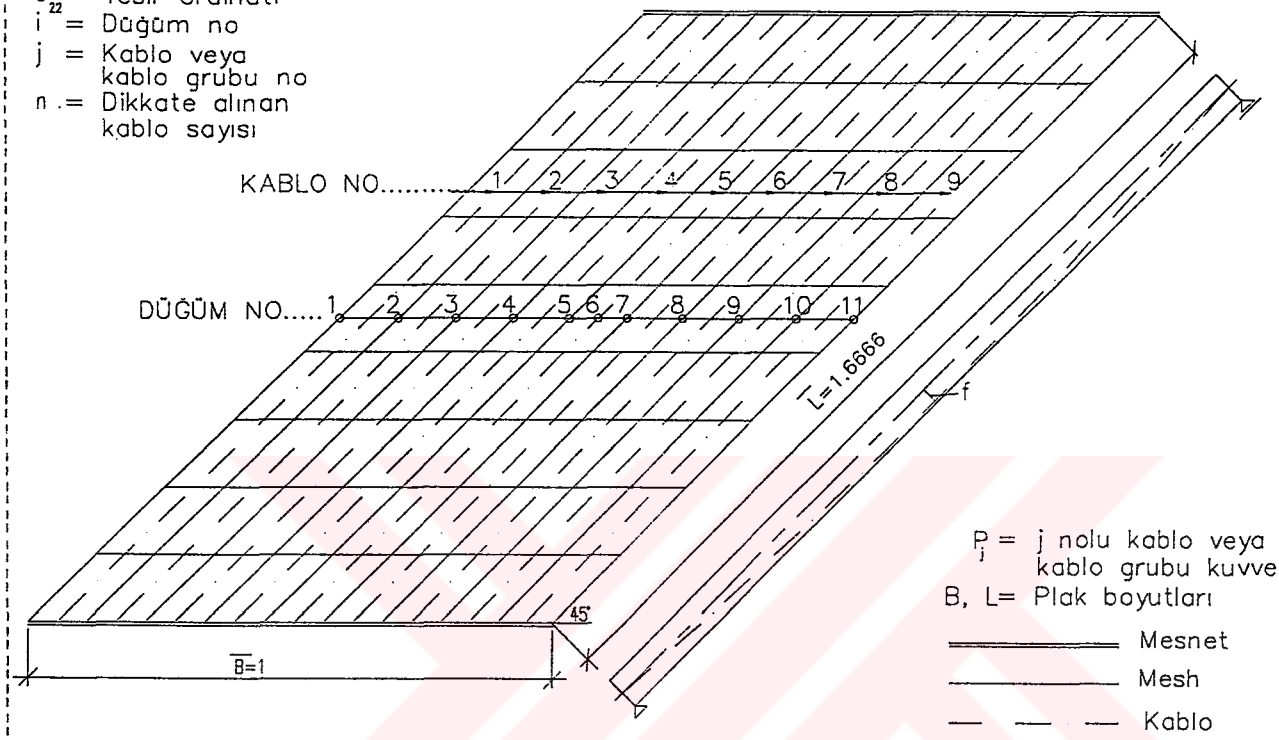
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.99740	-2.09935	-1.43535	-0.91212	-0.36160	0.11390	0.36708	0.44771	0.47844	-6.39870
2	-2.28955	-1.82558	-1.38680	-0.97569	-0.51911	-0.09476	0.16008	0.25885	0.28907	-6.38345
3	-1.88835	-1.53285	-1.20018	-0.88994	-0.56840	-0.25847	-0.06074	0.00423	-0.00966	-6.40440
4	-1.47190	-1.20261	-0.97898	-0.76278	-0.59421	-0.45427	-0.32900	-0.28333	-0.29553	-6.37258
5	-1.09035	-0.92405	-0.75474	-0.57842	-0.51085	-0.57047	-0.60968	-0.62776	-0.64348	-6.30980
6	-0.88083	-0.77546	-0.67061	-0.56539	-0.51831	-0.57009	-0.67255	-0.77406	-0.87584	-6.30313
7	-0.63375	-0.61791	-0.60172	-0.56844	-0.51873	-0.58931	-0.76147	-0.92792	-1.09376	-6.31305
8	-0.29073	-0.27863	-0.32466	-0.45074	-0.59365	-0.76522	-0.98254	-1.20733	-1.47880	-6.37228
9	-0.00674	0.00638	-0.05901	-0.25697	-0.56789	-0.89100	-1.20208	-1.53505	-1.89120	-6.40358
10	0.29114	0.26003	0.16050	-0.09475	-0.51926	-0.97638	-1.38800	-1.82653	-2.28972	-6.38298
11	0.48074	0.44924	0.36788	0.11429	-0.36119	-0.91185	-1.43560	-2.10075	-3.00130	-6.39860

N454P — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 0.60$	Paralel kablo	N454P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

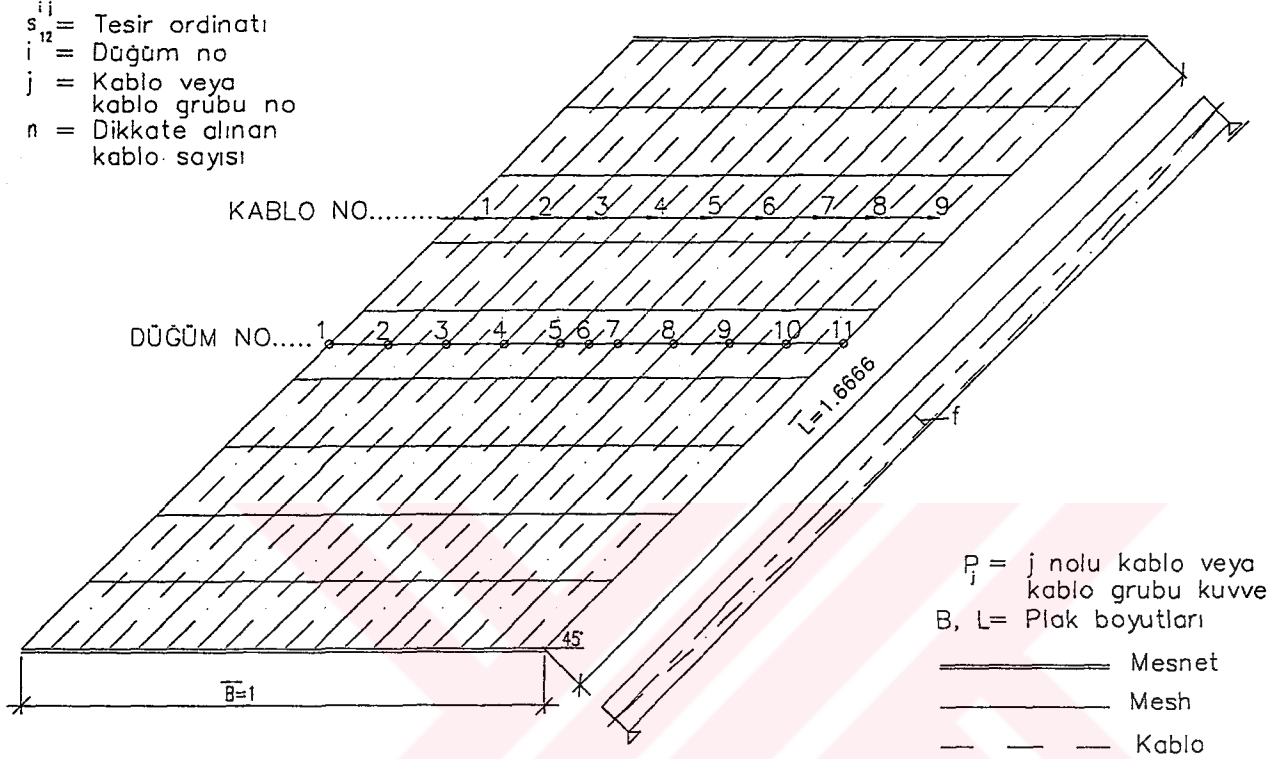
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.07090	-2.63965	-1.25701	-0.69016	-0.05517	0.61409	0.82552	0.84420	0.87766	-6.55140
2	-1.72103	-1.65102	-1.43657	-1.25005	-0.93055	-0.44926	-0.02528	0.34019	0.66927	-6.45427
3	-1.40927	-1.41431	-1.25249	-1.03130	-0.38732	-0.68052	-0.31491	0.07146	0.44484	-6.47385
4	-1.40495	-1.08852	-0.89040	-0.63654	-0.59963	-0.68171	-0.55003	-0.33592	-0.08534	-6.27305
5	-0.89629	-0.71111	-0.57024	-0.42740	-0.34579	-0.56998	-0.84068	-0.91575	-0.92435	-6.20155
6	-0.88365	-0.67072	-0.57580	-0.66973	-0.78937	-0.67086	-0.57078	-0.66348	-0.87258	-6.36698
7	-0.89091	-0.88985	-0.82379	-0.57355	-0.37767	-0.46135	-0.58520	-0.71258	-0.89767	-6.21258
8	-0.09111	-0.34457	-0.55765	-0.68393	-0.60611	-0.64459	-0.88660	-1.07289	-1.38413	-6.27160
9	0.44363	0.06618	-0.32262	-0.68486	-0.88302	-1.03280	-1.25211	-1.40617	-1.38960	-6.46645
10	0.66885	0.33821	-0.02935	-0.45375	-0.93067	-1.24981	-1.43883	-1.64802	-1.70684	-6.45020
11	0.88313	0.84910	0.82957	0.61750	-0.05037	-0.68603	-1.25764	-2.64690	-5.08955	-6.55120

N454P — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 0.60$	Paralel kablo	N454P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

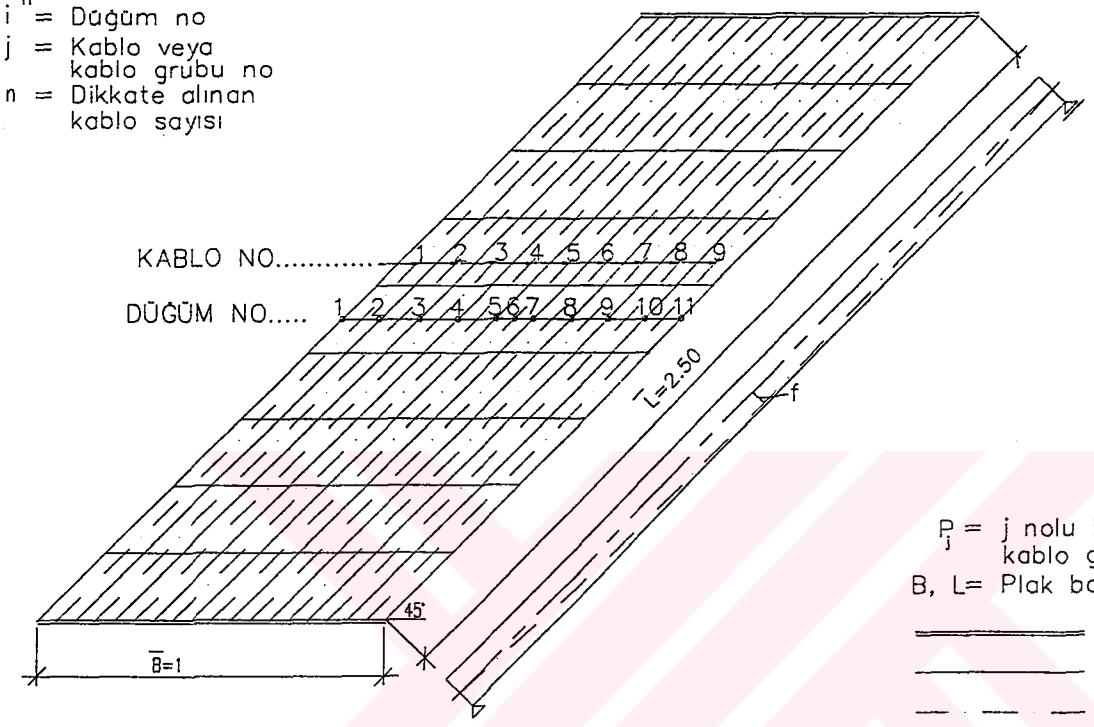
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.70054	-2.09780	-1.91370	-1.31355	-0.69210	-0.14063	0.30365	0.55721	0.69998	-6.29750
2	-2.33837	-1.90973	-1.47817	-0.95875	-0.52982	-0.20957	0.13397	0.39699	0.59215	-6.30128
3	-1.77933	-1.49616	-1.23098	-0.95262	-0.66936	-0.43201	-0.18720	0.09847	0.36138	-6.28778
4	-1.15671	-1.19160	-1.09765	-1.00707	-0.81676	-0.59350	-0.42507	-0.18264	0.09935	-6.37168
5	-0.78654	-0.89066	-0.95843	-0.98918	-0.95940	-0.77116	-0.55753	-0.37526	-0.15174	-6.43995
6	-0.46648	-0.67822	-0.80915	-0.83510	-0.80451	-0.83208	-0.80865	-0.67907	-0.46924	-6.38253
7	-0.17737	-0.39728	-0.57526	-0.78261	-0.96150	-0.98165	-0.94347	-0.86850	-0.75413	-6.44180
8	0.09076	-0.18944	-0.43131	-0.60179	-0.82767	-1.01324	-1.09387	-1.17835	-1.13145	-6.37637
9	0.35570	0.09401	-0.19092	-0.43689	-0.67684	-0.95792	-1.22983	-1.48797	-1.76011	-6.29073
10	0.58964	0.39490	0.13235	-0.21125	-0.53312	-0.96177	-1.47820	-1.90627	-2.32854	-6.30225
11	0.69726	0.55474	0.30156	-0.14240	-0.69434	-1.31530	-1.91320	-2.09420	-1.69174	-6.29765

N455P — m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$

$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N455P

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

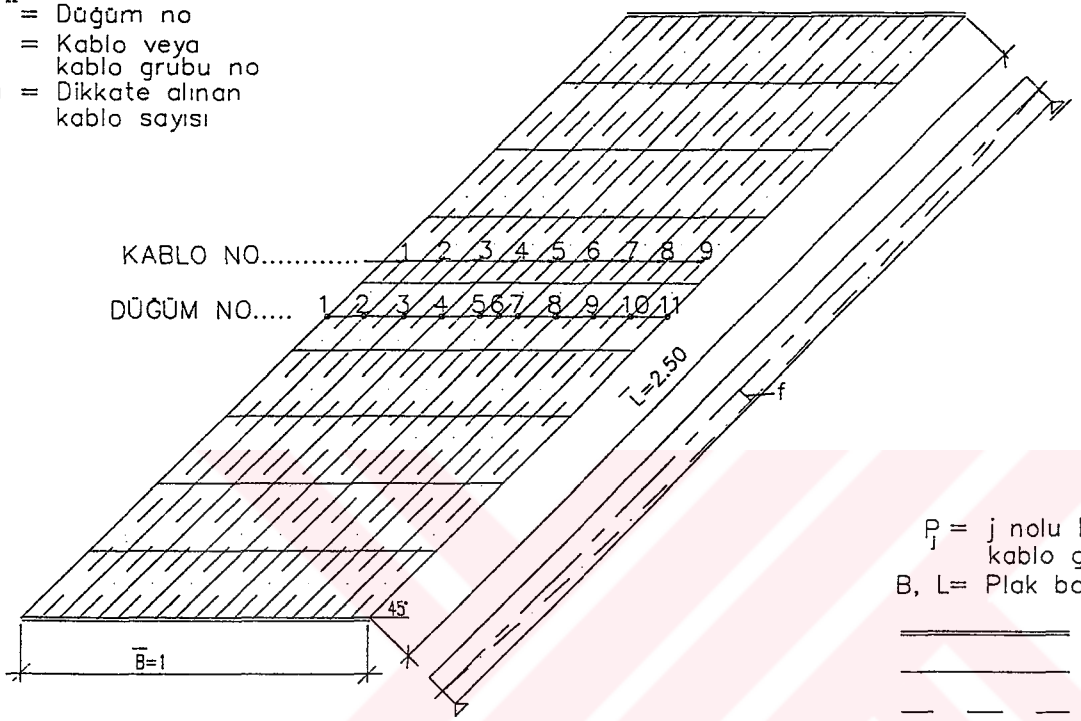
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.13818	-0.11360	-0.08545	-0.04946	-0.00919	0.03453	0.08117	0.12991	0.18007	0.02979
2	-0.11128	-0.10977	-0.08660	-0.04585	-0.00543	0.03749	0.08357	0.13188	0.18170	0.07569
3	-0.05378	-0.08051	-0.08207	-0.05776	-0.01508	0.02635	0.06991	0.11617	0.16444	0.08767
4	0.01072	-0.03402	-0.06152	-0.06222	-0.03615	0.00772	0.05025	0.09463	0.14153	0.11094
5	0.06223	0.02097	-0.02168	-0.04557	-0.04688	-0.02496	0.01880	0.06388	0.11036	0.13716
6	0.08503	0.04139	-0.00224	-0.03894	-0.05335	-0.03894	-0.00224	0.04139	0.08504	0.11714
7	0.11036	0.06388	0.01880	-0.02496	-0.04688	-0.04557	-0.02168	0.02097	0.06223	0.13716
8	0.14153	0.09463	0.05025	0.00772	-0.03615	-0.06222	-0.06152	-0.03402	0.01072	0.11094
9	0.16445	0.11617	0.06991	0.02635	-0.01508	-0.05776	-0.08207	-0.08051	-0.05378	0.08767
10	0.18170	0.13187	0.08357	0.03749	-0.00543	-0.04586	-0.08660	-0.10977	-0.11128	0.07569
11	0.18007	0.12991	0.08117	0.03453	-0.00919	-0.04946	-0.08545	-0.11360	-0.13818	0.02979

N455P — m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N455P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

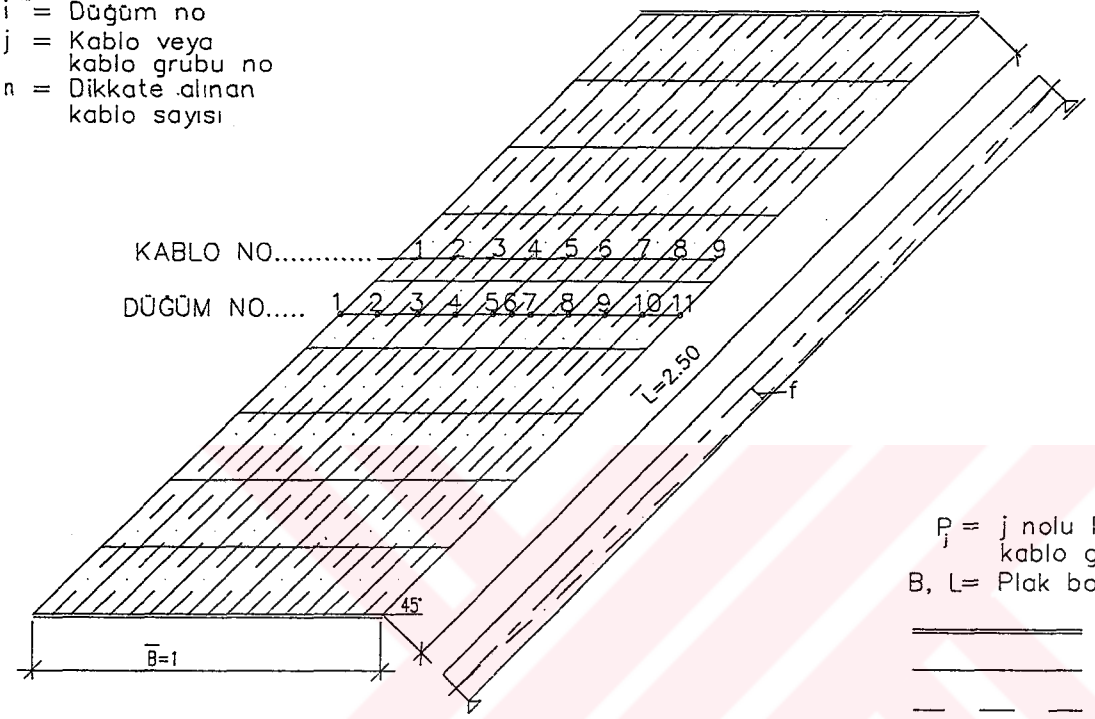
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.71292	-0.72669	-0.68287	-0.63658	-0.60138	-0.57198	-0.54878	-0.53145	-0.51989	-5.53250
2	-0.74945	-0.72650	-0.72072	-0.68953	-0.65622	-0.63060	-0.61093	-0.59717	-0.58923	-5.97035
3	-0.76949	-0.74268	-0.72841	-0.72728	-0.70380	-0.67830	-0.65975	-0.64753	-0.64142	-6.29865
4	-0.76331	-0.76324	-0.74091	-0.73305	-0.73673	-0.71874	-0.70083	-0.68890	-0.68349	-6.52920
5	-0.73751	-0.74667	-0.75374	-0.73767	-0.73785	-0.74827	-0.73638	-0.72651	-0.72243	-6.64703
6	-0.73034	-0.73614	-0.74768	-0.74781	-0.74077	-0.74781	-0.74768	-0.73614	-0.73034	-6.66470
7	-0.72243	-0.72651	-0.73638	-0.74827	-0.73785	-0.73767	-0.75375	-0.74667	-0.73750	-6.64703
8	-0.68349	-0.68890	-0.70083	-0.71874	-0.73673	-0.73305	-0.74091	-0.76324	-0.76331	-6.52920
9	-0.64142	-0.64753	-0.65975	-0.67830	-0.70380	-0.72728	-0.72841	-0.74267	-0.76949	-6.29865
10	-0.58923	-0.59717	-0.61093	-0.63060	-0.65622	-0.68953	-0.72072	-0.72650	-0.74945	-5.97035
11	-0.51989	-0.53145	-0.54878	-0.57198	-0.60138	-0.63658	-0.68287	-0.72669	-0.71292	-5.53250

N455P — mi2 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_i \frac{\overline{L}}{L}$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\overline{B}}{\overline{L}} = 0.40$	Paralel kablo	N455P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

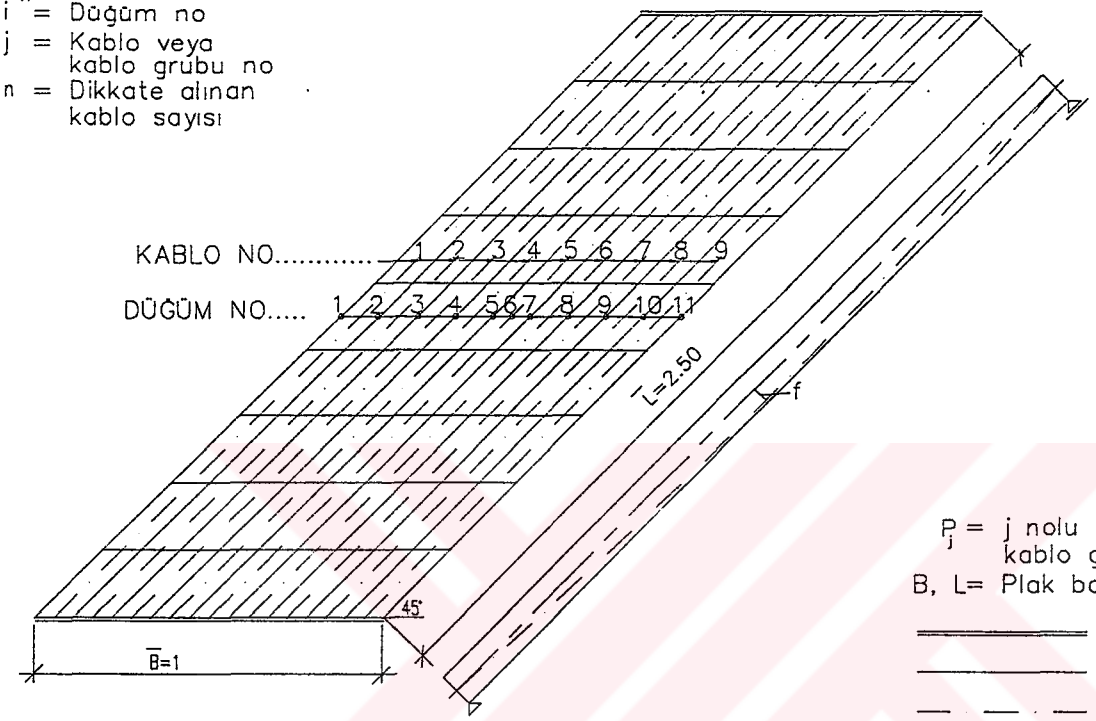
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.42533	-0.41702	-0.38208	-0.34024	-0.30193	-0.26546	-0.23094	-0.19844	-0.16820	-2.72960
2	-0.42051	-0.37352	-0.35782	-0.33520	-0.30581	-0.27829	-0.25225	-0.22774	-0.20491	-2.75605
3	-0.42107	-0.35216	-0.31589	-0.31119	-0.30244	-0.28684	-0.27260	-0.25975	-0.24828	-2.77020
4	-0.40785	-0.35579	-0.30079	-0.27876	-0.28760	-0.29259	-0.29201	-0.29227	-0.29393	-2.80158
5	-0.37863	-0.34849	-0.31231	-0.27248	-0.26680	-0.28936	-0.30683	-0.32154	-0.33737	-2.83382
6	-0.35852	-0.33530	-0.31255	-0.28092	-0.26085	-0.28092	-0.31255	-0.33530	-0.35852	-2.83540
7	-0.33737	-0.32154	-0.30683	-0.28936	-0.26680	-0.27248	-0.31231	-0.34849	-0.37863	-2.83382
8	-0.29393	-0.29227	-0.29202	-0.29259	-0.28760	-0.27876	-0.30079	-0.35579	-0.40785	-2.80158
9	-0.24828	-0.25975	-0.27260	-0.28684	-0.30243	-0.31119	-0.31589	-0.35216	-0.42107	-2.77020
10	-0.20491	-0.22774	-0.25225	-0.27829	-0.30581	-0.33520	-0.35782	-0.37352	-0.42051	-2.75605
11	-0.16820	-0.19844	-0.23094	-0.26546	-0.30193	-0.34024	-0.38208	-0.41702	-0.42533	-2.72960

N455P — sll TESIR SAYILARI

$S_{11}^{ij} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 0.40$	Paralel kablo	N455P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

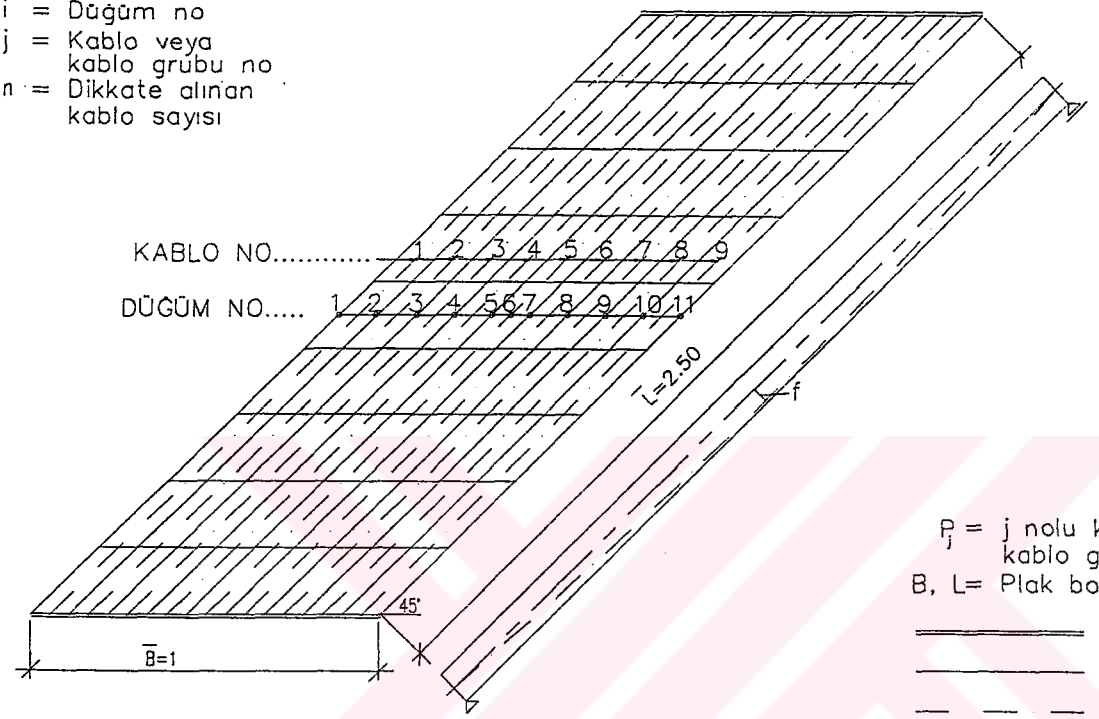
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.86975	-1.76495	-1.33515	-1.04951	-0.67143	-0.23924	0.15790	0.52684	0.88217	-6.36320
2	-1.95263	-1.56048	-1.29488	-1.04551	-0.75326	-0.41812	-0.08567	0.22648	0.52745	-6.35663
3	-1.72478	-1.40209	-1.15246	-0.95417	-0.73137	-0.46484	-0.21704	0.02430	0.25170	-6.37075
4	-1.46794	-1.22227	-1.01143	-0.84098	-0.68802	-0.52901	-0.36666	-0.20989	-0.05703	-6.39322
5	-0.90575	-0.84192	-0.74712	-0.58130	-0.61760	-0.74222	-0.68228	-0.62536	-0.58943	-6.33300
6	-0.81695	-0.80414	-0.72040	-0.56291	-0.47069	-0.56291	-0.72040	-0.80414	-0.81695	-6.27950
7	-0.58943	-0.62536	-0.68229	-0.74222	-0.61760	-0.58130	-0.74712	-0.84192	-0.90575	-6.33300
8	-0.05703	-0.20989	-0.36666	-0.52901	-0.68802	-0.84098	-1.01143	-1.22227	-1.46794	-6.39323
9	0.25170	0.02430	-0.21704	-0.46484	-0.73137	-0.95417	-1.15246	-1.40209	-1.72478	-6.37075
10	0.52745	0.22648	-0.08567	-0.41812	-0.75326	-1.04551	-1.29488	-1.56048	-1.95263	-6.35663
11	0.88217	0.52684	0.15790	-0.23924	-0.67143	-1.04951	-1.33515	-1.76495	-2.86975	-6.36320

N455P — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinati
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N455P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

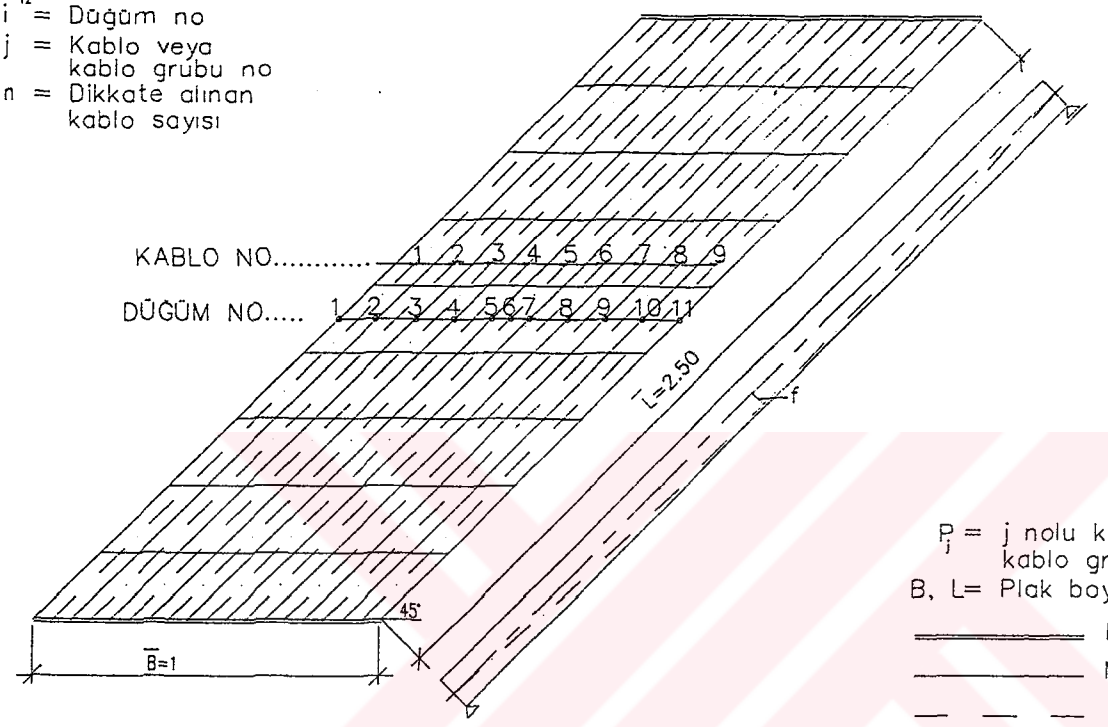
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-6.45490	-2.32785	-0.99160	-0.72108	-0.30342	0.35261	0.89040	1.36112	1.80640	-6.38860
2	-1.48196	-1.59838	-1.33385	-1.10722	-0.85623	-0.50092	-0.15599	0.17478	0.49465	-6.36515
3	-1.38588	-1.49241	-1.34440	-1.06382	-0.77396	-0.47332	-0.22641	0.03031	0.27608	-6.45378
4	-1.38530	-1.18302	-1.09508	-0.80748	-0.61199	-0.56634	-0.39646	-0.25447	-0.11387	-6.41400
5	0.39980	0.33537	0.04497	-0.32436	-0.72864	-1.20343	-1.47173	-1.57989	-1.70682	-6.23470
6	-1.08466	-0.96567	-0.61577	-0.32513	-0.27567	-0.32513	-0.61577	-0.96567	-1.08466	-6.25810
7	-1.70682	-1.57989	-1.47173	-1.20343	-0.72863	-0.32436	0.04497	0.33537	0.39980	-6.23470
8	-0.11387	-0.25447	-0.39646	-0.56634	-0.61199	-0.80748	-1.09508	-1.18302	-1.38530	-6.41400
9	0.27608	0.03031	-0.22641	-0.47332	-0.77396	-1.06382	-1.34440	-1.49241	-1.38588	-6.45378
10	0.49465	0.17478	-0.15599	-0.50092	-0.85623	-1.10722	-1.33385	-1.59838	-1.48196	-6.36515
11	1.80640	1.36112	0.89040	0.35261	-0.30342	-0.72108	-0.99160	-2.32785	-6.45490	-6.38860

N455P — s13 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N455P

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

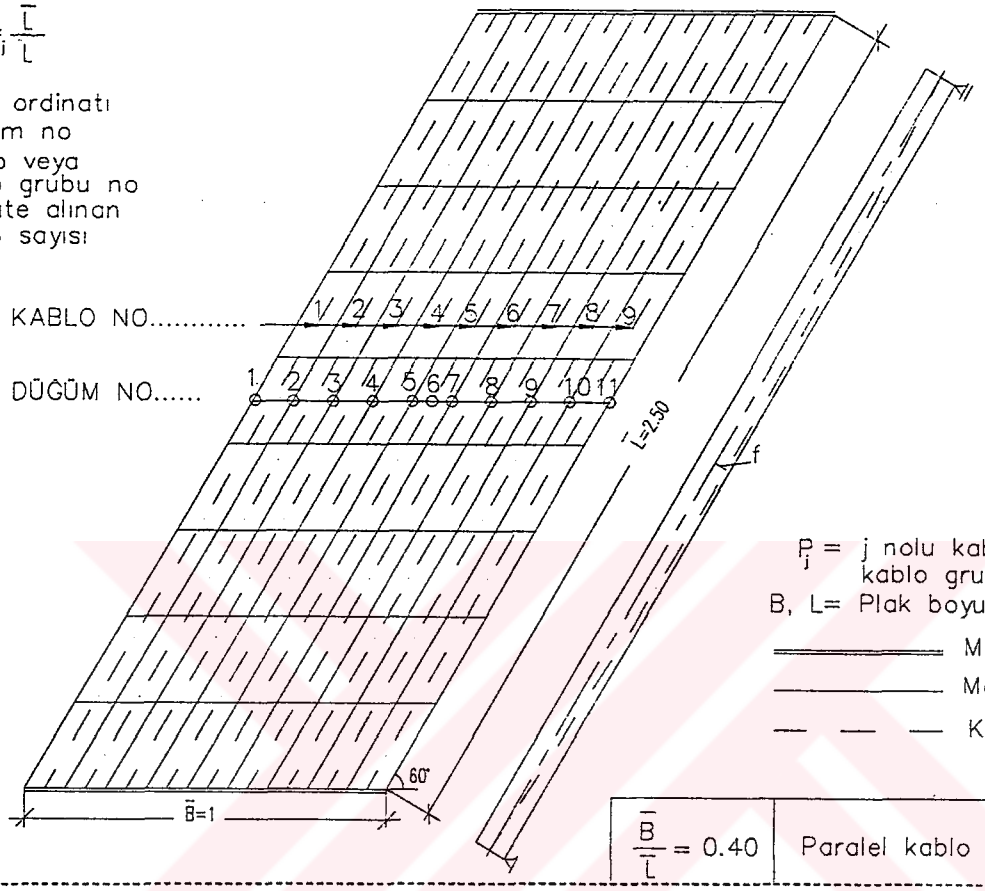
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.74360	-2.04740	-1.94710	-1.36955	-0.90182	-0.52272	-0.07129	0.40070	0.85319	-6.34955
2	-2.26065	-1.87924	-1.49900	-1.05548	-0.63991	-0.29751	0.05814	0.42585	0.78274	-6.36505
3	-1.71985	-1.44940	-1.18756	-0.92446	-0.67179	-0.45268	-0.21519	0.02451	0.27021	-6.32623
4	-1.13698	-1.10916	-0.97778	-0.88376	-0.74678	-0.56561	-0.43661	-0.30134	-0.16441	-6.32240
5	-1.34661	-1.29134	-1.14671	-0.98068	-0.73222	-0.43062	-0.26911	-0.16796	-0.05609	-6.42135
6	-0.52486	-0.57729	-0.74041	-0.89922	-0.94267	-0.89922	-0.74041	-0.57729	-0.52486	-6.42620
7	-0.05609	-0.16796	-0.26911	-0.43062	-0.73222	-0.98068	-1.14671	-1.29134	-1.34661	-6.42135
8	-0.16441	-0.30134	-0.43661	-0.56561	-0.74678	-0.88376	-0.97778	-1.10916	-1.13698	-6.32240
9	0.27021	0.02451	-0.21519	-0.45268	-0.67179	-0.92446	-1.18756	-1.44940	-1.71985	-6.32623
10	0.78274	0.42585	0.05814	-0.29751	-0.63991	-1.05548	-1.49900	-1.87924	-2.26065	-6.36505
11	0.85319	0.40070	-0.07129	-0.52272	-0.90182	-1.36955	-1.94710	-2.04740	-0.74360	-6.34955

N606P

m11 TESIR SAYILARI

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

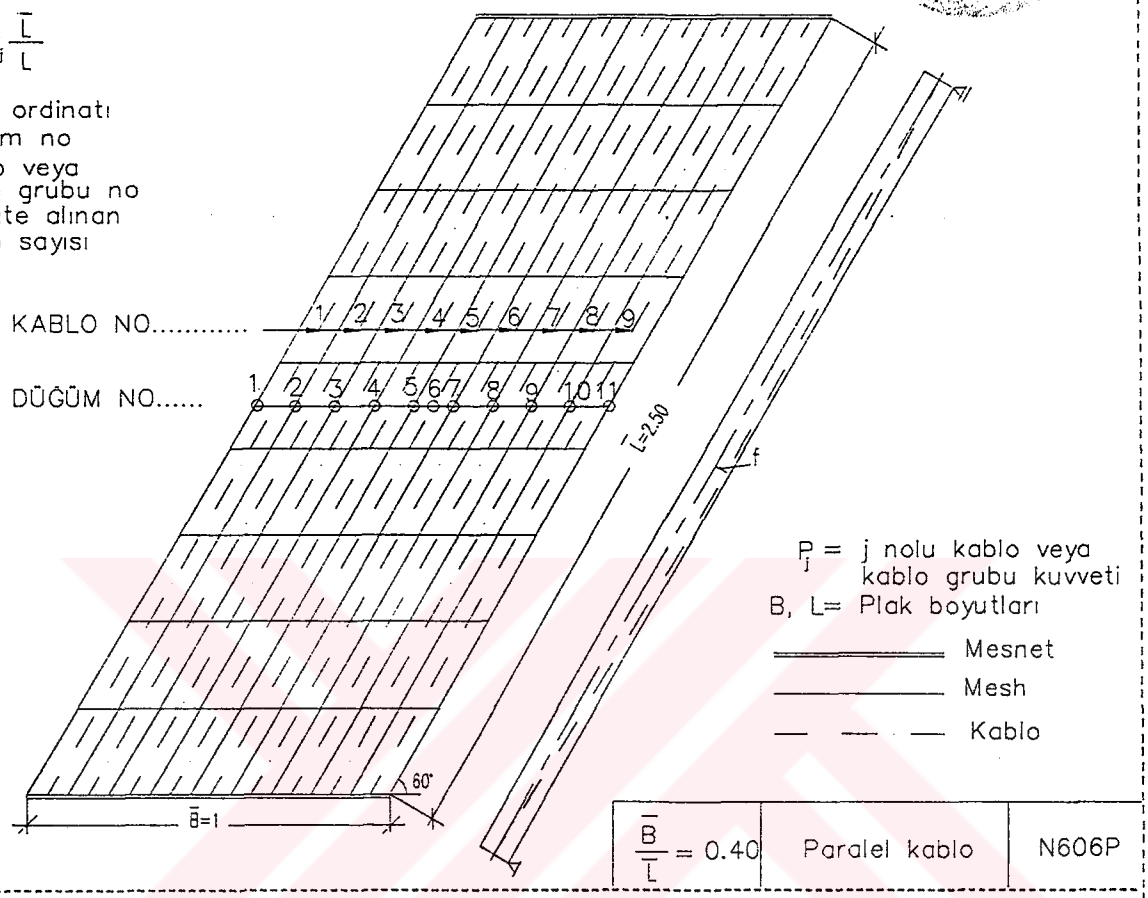
$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N606P

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.03433	-0.02466	-0.01572	-0.00300	0.01268	0.03035	0.04954	0.06983	0.09090	0.17559
2	-0.02689	-0.05445	-0.04526	-0.01956	0.00462	0.02974	0.05590	0.08274	0.11006	0.13692
3	0.01679	-0.04482	-0.06729	-0.05033	-0.01615	0.01597	0.04854	0.08179	0.11553	0.10002
4	0.06150	-0.00873	-0.06219	-0.07582	-0.04987	-0.00707	0.03365	0.07460	0.11618	0.08225
5	0.09003	0.03199	-0.02810	-0.06979	-0.07405	-0.04269	0.00771	0.05846	0.10937	0.08293
6	0.10004	0.04558	-0.00937	-0.06000	-0.08280	-0.06000	-0.00937	0.04557	0.10003	0.06970
7	0.10956	0.05864	0.00788	-0.04254	-0.07392	-0.06966	-0.02794	0.03217	0.09023	0.08444
8	0.11618	0.07459	0.03365	-0.00707	-0.04987	-0.07581	-0.06219	-0.00872	0.06151	0.08226
9	0.11553	0.08179	0.04854	0.01597	-0.01615	-0.05033	-0.06729	-0.04482	0.01679	0.10002
10	0.11006	0.08274	0.05590	0.02974	0.00462	-0.01956	-0.04526	-0.05445	-0.02689	0.13692
11	0.09090	0.06983	0.04954	0.03035	0.01268	-0.00300	-0.01572	-0.02466	-0.03433	0.17559

N606P — m22 TESİR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



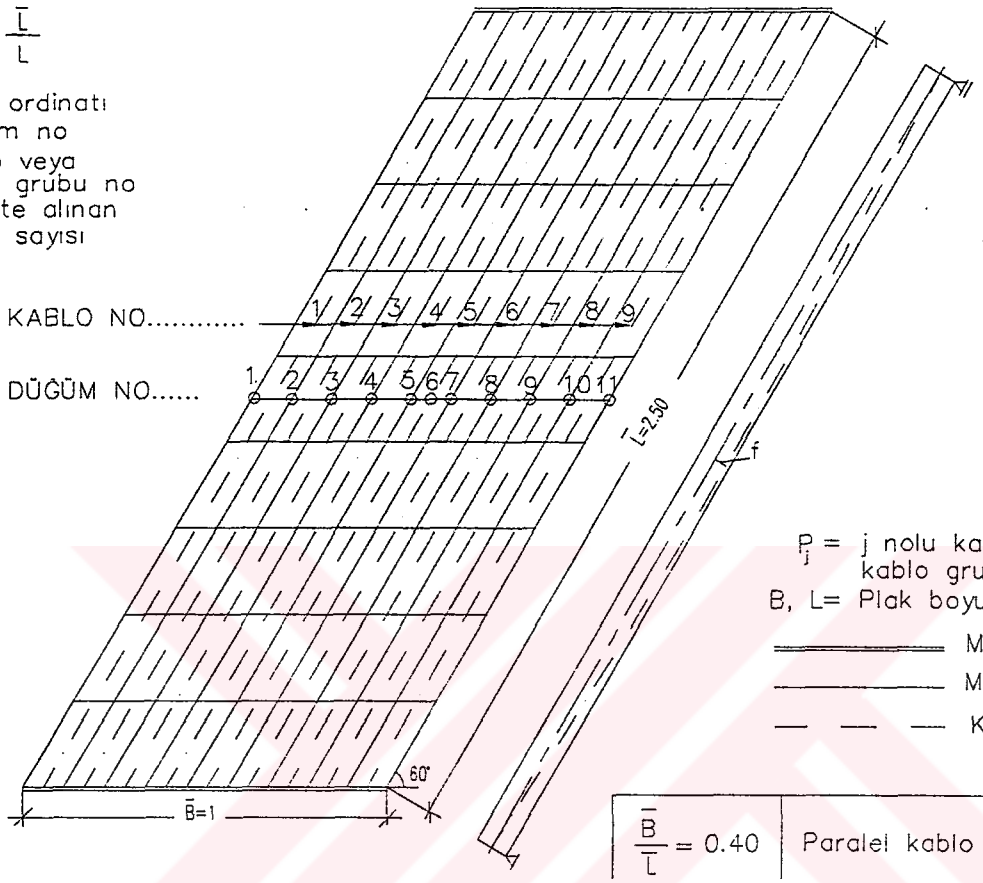
$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N606P

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.93331	-0.93799	-0.89796	-0.85350	-0.81483	-0.78076	-0.75161	-0.72727	-0.70775	-7.40495
2	-0.94536	-0.91887	-0.90392	-0.87101	-0.83606	-0.80580	-0.78003	-0.75889	-0.74240	-7.56235
3	-0.94112	-0.91163	-0.89226	-0.88337	-0.85849	-0.83169	-0.80920	-0.79132	-0.77808	-7.69715
4	-0.91781	-0.91070	-0.88768	-0.87586	-0.87401	-0.85660	-0.83821	-0.82366	-0.81380	-7.79835
5	-0.88282	-0.88621	-0.88763	-0.87275	-0.86978	-0.87603	-0.86660	-0.85722	-0.85164	-7.85068
6	-0.86788	-0.87206	-0.87934	-0.87828	-0.87304	-0.87824	-0.87930	-0.87202	-0.86785	-7.86800
7	-0.85182	-0.85738	-0.86676	-0.87616	-0.86991	-0.87291	-0.88782	-0.88641	-0.88303	-7.85218
8	-0.81379	-0.82365	-0.83821	-0.85660	-0.87401	-0.87586	-0.88769	-0.91071	-0.91781	-7.79835
9	-0.77808	-0.79132	-0.80921	-0.83169	-0.85849	-0.88337	-0.89226	-0.91163	-0.94112	-7.69715
10	-0.74240	-0.75889	-0.78004	-0.80580	-0.83606	-0.87101	-0.90392	-0.91887	-0.94536	-7.56235
11	-0.70775	-0.72727	-0.75161	-0.78076	-0.81483	-0.85350	-0.89796	-0.93799	-0.93331	-7.40495

N606P — m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

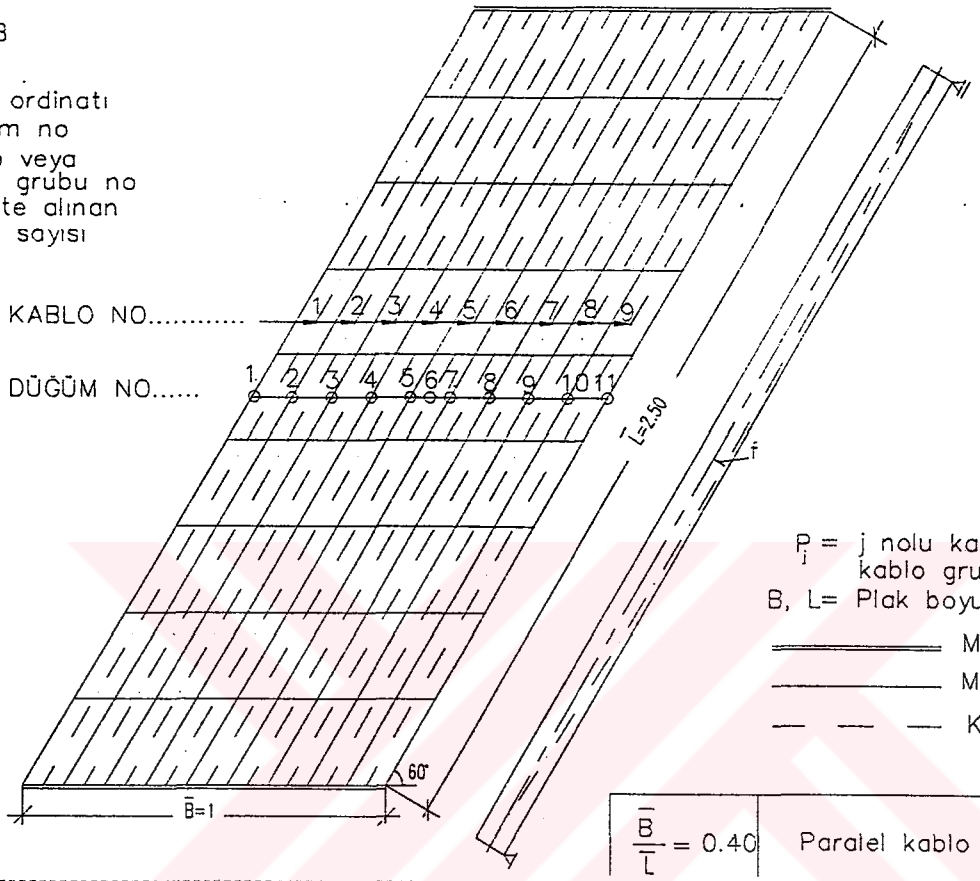
$\frac{\bar{B}}{\bar{L}} = 0.40$	Paralel kablo	N606P

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.29814	-0.28978	-0.26968	-0.24398	-0.21811	-0.19225	-0.16671	-0.14174	-0.11755	-1.93790
2	-0.28242	-0.24917	-0.23815	-0.22549	-0.20837	-0.19068	-0.17269	-0.15474	-0.13715	-1.85888
3	-0.26946	-0.22133	-0.19660	-0.19451	-0.19193	-0.18481	-0.17681	-0.16835	-0.15984	-1.76362
4	-0.25326	-0.21535	-0.17776	-0.16308	-0.17056	-0.17750	-0.18017	-0.18175	-0.18300	-1.70243
5	-0.23245	-0.20899	-0.18153	-0.15403	-0.15045	-0.16745	-0.18259	-0.19467	-0.20608	-1.67825
6	-0.21905	-0.20167	-0.18313	-0.15925	-0.14514	-0.15922	-0.18311	-0.20166	-0.21905	-1.67128
7	-0.20565	-0.19426	-0.18219	-0.16707	-0.15009	-0.15367	-0.18115	-0.20858	-0.23202	-1.67468
8	-0.18299	-0.18175	-0.18016	-0.17750	-0.17056	-0.16308	-0.17777	-0.21536	-0.25327	-1.70243
9	-0.15984	-0.16835	-0.17680	-0.18481	-0.19193	-0.19452	-0.19660	-0.22133	-0.26946	-1.76362
10	-0.13715	-0.15474	-0.17269	-0.19068	-0.20837	-0.22549	-0.23815	-0.24917	-0.28242	-1.85888
11	-0.11755	-0.14174	-0.16671	-0.19225	-0.21811	-0.24398	-0.26968	-0.28978	-0.29814	-1.93790

N606P — s11 TESİR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.40$	Paralel kablo	N606P

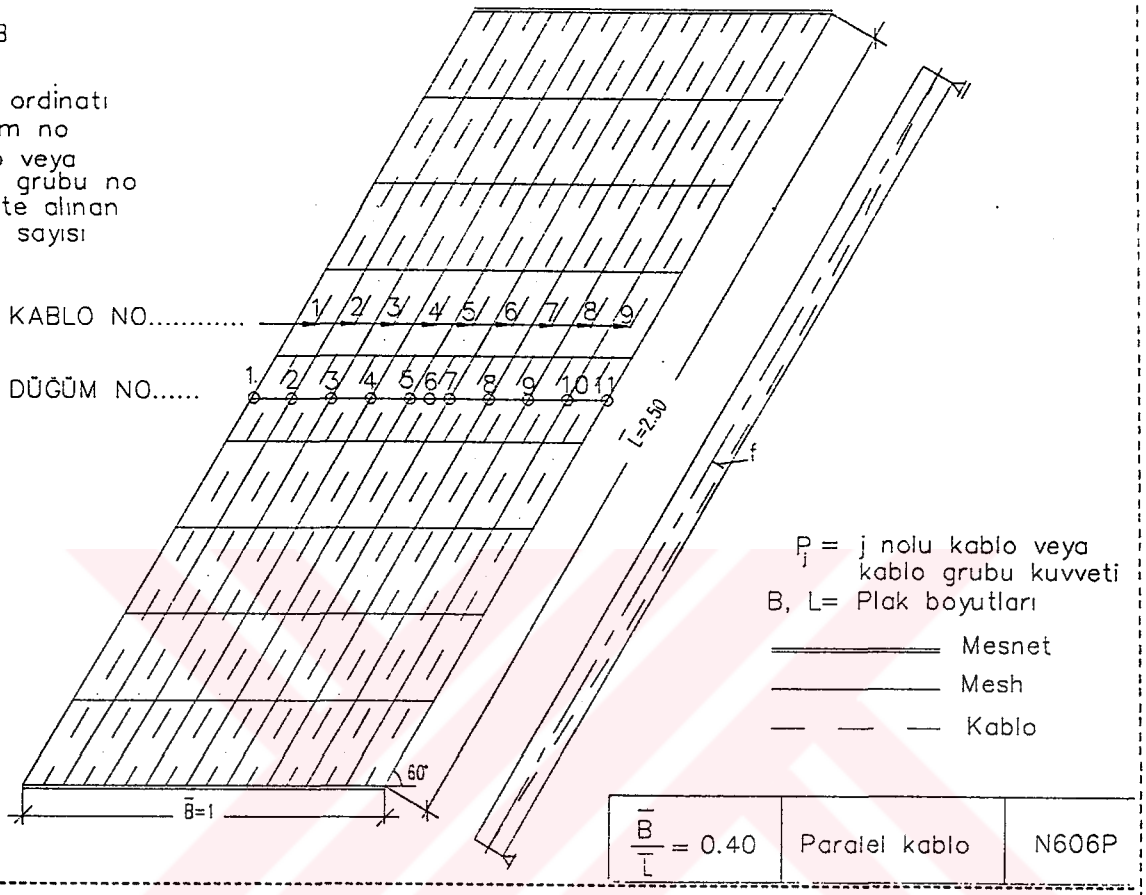
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.21438	-0.76173	-0.56675	-0.43631	-0.26754	-0.07690	0.09124	0.24340	0.38956	-2.59940
2	-0.88511	-0.64773	-0.51590	-0.42126	-0.29940	-0.15002	-0.01328	0.10969	0.22617	-2.59680
3	-0.77715	-0.56006	-0.44192	-0.38071	-0.29939	-0.17645	-0.07536	0.01424	0.09796	-2.59883
4	-0.63041	-0.48582	-0.39268	-0.34424	-0.28772	-0.21256	-0.14823	-0.08840	-0.02859	-2.61865
5	-0.50071	-0.42100	-0.30759	-0.11369	-0.16407	-0.32011	-0.28092	-0.25011	-0.23044	-2.58863
6	-0.42158	-0.38679	-0.30410	-0.14061	-0.03733	-0.14066	-0.30451	-0.38741	-0.42226	-2.54525
7	-0.23042	-0.25007	-0.28089	-0.32002	-0.16361	-0.11297	-0.30682	-0.42009	-0.49974	-2.58465
8	-0.02857	-0.08839	-0.14821	-0.21253	-0.28768	-0.34422	-0.39269	-0.48586	-0.63045	-2.61860
9	0.09796	0.01424	-0.07536	-0.17646	-0.29939	-0.38070	-0.44192	-0.56006	-0.77715	-2.59883
10	0.22617	0.10969	-0.01328	-0.15002	-0.29940	-0.42126	-0.51590	-0.64773	-0.88511	-2.59680
11	0.38956	0.24340	0.09124	-0.07690	-0.26753	-0.43631	-0.56675	-0.76173	-1.21438	-2.59940

N606P

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

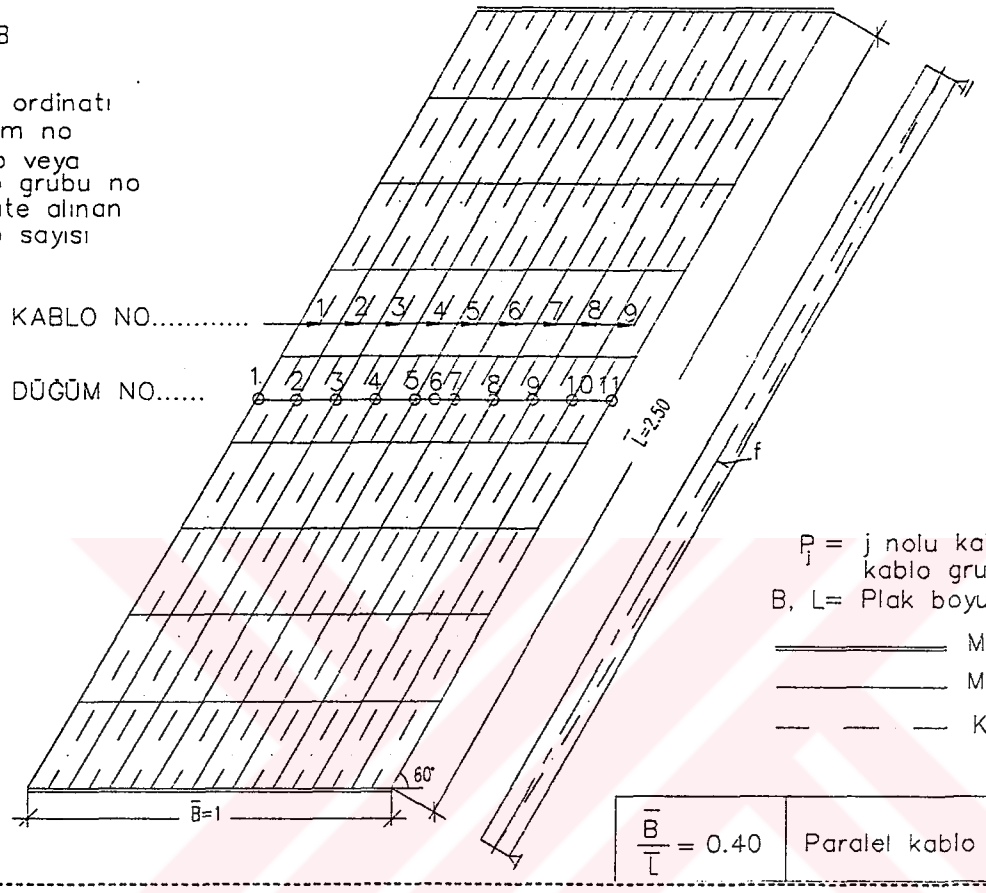
$\frac{B}{L}$ = 0.40	Paralel kablo	N606P

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.37075	-2.65985	-1.81140	-1.28770	-0.73285	-0.09642	0.49495	1.05799	1.60210	-7.80390
2	-2.33846	-2.14050	-1.74055	-1.35693	-0.94783	-0.48750	-0.03450	0.41053	0.83707	-7.79865
3	-1.96774	-1.82953	-1.55253	-1.21278	-0.88534	-0.55920	-0.25083	0.06505	0.36930	-7.82355
4	-1.63753	-1.44482	-1.28674	-1.02499	-0.80396	-0.68075	-0.50120	-0.31615	-0.13278	-7.82893
5	-0.84354	-0.76887	-0.76282	-0.75050	-0.81574	-0.94862	-0.97559	-0.95442	-0.92008	-7.74018
6	-0.97972	-0.93997	-0.82448	-0.74296	-0.73831	-0.74352	-0.82513	-0.94061	-0.98050	-7.71520
7	-0.92139	-0.95560	-0.97663	-0.94952	-0.81645	-0.75072	-0.76256	-0.76847	-0.84290	-7.74430
8	-0.13270	-0.31608	-0.50114	-0.68067	-0.80393	-1.02502	-1.28678	-1.44491	-1.63763	-7.82888
9	0.36931	0.06505	-0.25084	-0.55919	-0.88534	-1.21278	-1.55250	-1.82951	-1.96772	-7.82353
10	0.83705	0.41053	-0.03451	-0.48751	-0.94784	-1.35690	-1.74055	-2.14048	-2.33846	-7.79865
11	1.60210	1.05799	0.49494	-0.09642	-0.73285	-1.28770	-1.81140	-2.65985	-4.37070	-7.80390

N606P — s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

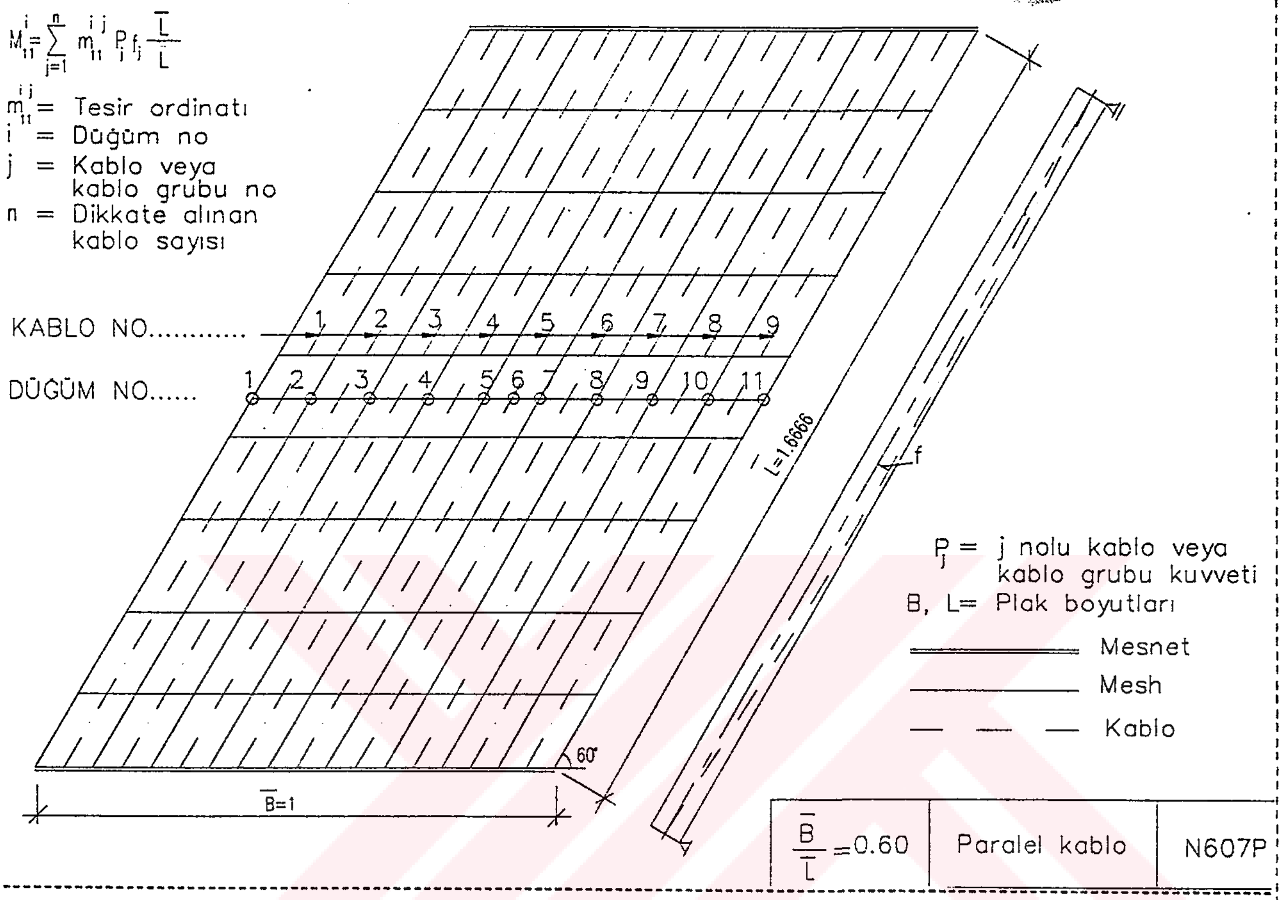
Mesnet
Mesh
Kablo

$\frac{B}{L}$ = 0.40	Paralel kablo	N606P

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.77562	-1.42000	-1.32965	-0.96336	-0.62606	-0.33906	-0.01275	0.32579	0.64872	-4.49200
2	-1.61665	-1.31302	-1.05317	-0.73969	-0.44580	-0.20757	0.04127	0.29497	0.54192	-4.49773
3	-1.24637	-1.04226	-0.85412	-0.66802	-0.48092	-0.31648	-0.13699	0.04265	0.22269	-4.47980
4	-0.85509	-0.81983	-0.70174	-0.62806	-0.53358	-0.38961	-0.28313	-0.17955	-0.07365	-4.46423
5	-0.79587	-0.80387	-0.74270	-0.68617	-0.54725	-0.35239	-0.26202	-0.20315	-0.14663	-4.54005
6	-0.39728	-0.43945	-0.53231	-0.60394	-0.61348	-0.60311	-0.53119	-0.43810	-0.39568	-4.55450
7	-0.14551	-0.20214	-0.26109	-0.35167	-0.54693	-0.68625	-0.74306	-0.80445	-0.79657	-4.53765
8	-0.07371	-0.17960	-0.28318	-0.38968	-0.53361	-0.62803	-0.70170	-0.81977	-0.85499	-4.46425
9	0.22269	0.04265	-0.13698	-0.31647	-0.48091	-0.66803	-0.85413	-1.04229	-1.24638	-4.47980
10	0.54192	0.29497	0.04128	-0.20757	-0.44580	-0.73969	-1.05317	-1.31303	-1.61665	-4.49773
11	0.64873	0.32579	-0.01274	-0.33905	-0.62606	-0.96336	-1.32965	-1.42000	-0.77563	-4.49200

N607P

mll TESIR SAYILARI



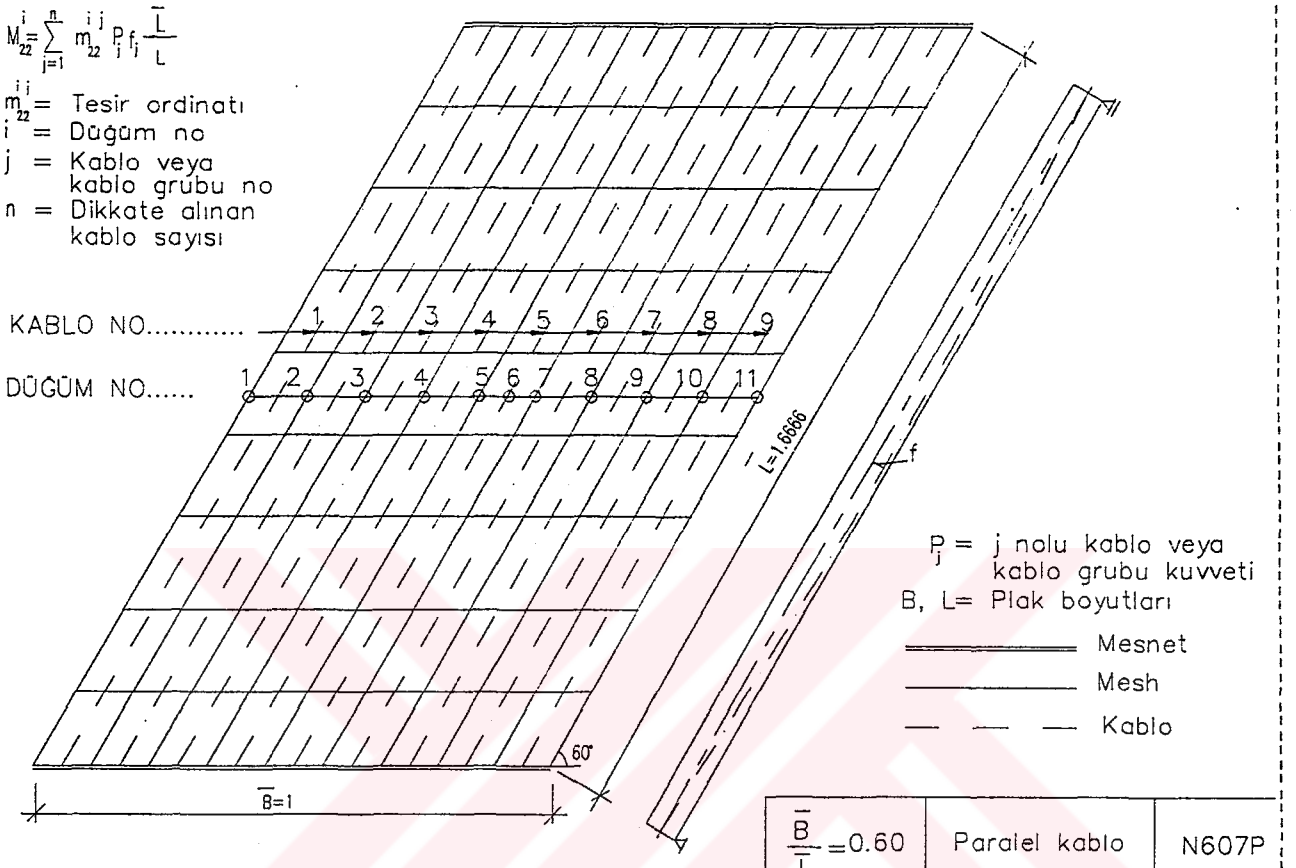
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.10261	-0.07114	-0.04802	-0.01771	0.02034	0.06027	0.09958	0.13754	0.17476	0.25300
2	-0.07521	-0.20121	-0.14807	-0.07136	-0.00666	0.05606	0.11355	0.16623	0.21613	0.04947
3	0.09699	-0.17751	-0.27069	-0.18454	-0.07750	0.01219	0.09671	0.17477	0.24843	-0.08115
4	0.23078	-0.02667	-0.26080	-0.31728	-0.19869	-0.06067	0.05948	0.17317	0.28185	-0.11883
5	0.28841	0.09191	-0.11930	-0.30374	-0.32063	-0.18019	-0.01270	0.14697	0.30244	-0.10684
6	0.29763	0.12052	-0.06048	-0.24996	-0.34736	-0.24998	-0.06055	0.12044	0.29756	-0.13220
7	0.30249	0.14703	-0.01264	-0.18014	-0.32063	-0.30377	-0.11936	0.09182	0.28832	-0.10688
8	0.23187	0.17320	0.05951	-0.06064	-0.19869	-0.31731	-0.26087	-0.02678	0.23064	-0.11907
9	0.24845	0.17479	0.09673	0.01221	-0.07749	-0.18456	-0.27077	-0.17762	0.09682	-0.08144
10	0.21612	0.16620	0.11352	0.05601	-0.00673	-0.07146	-0.14823	-0.20144	-0.07551	0.04848
11	0.17480	0.13759	0.09963	0.06034	0.02040	-0.01764	-0.04796	-0.07110	-0.10256	0.25350

N607P

m22 TESIR SAYILARI

$$M_{22}^{i}=\sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



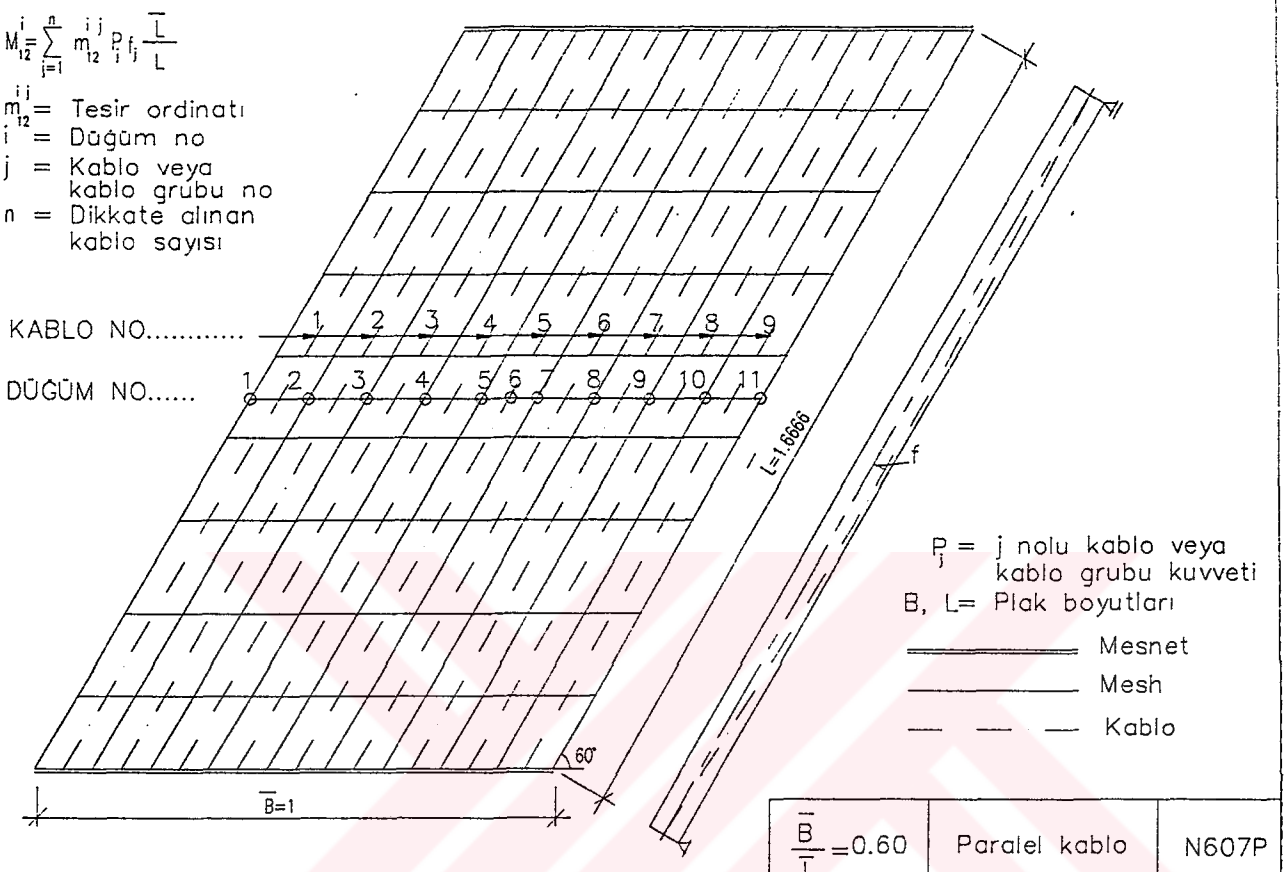
$\frac{\bar{B}}{\bar{L}}$=0.60	Paralel kablo	N607P

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.86470	-1.79510	-1.60740	-1.43625	-1.28995	-1.16300	-1.05580	-0.96748	-0.89703	-12.07650
2	-1.84430	-1.73145	-1.63290	-1.48528	-1.34968	-1.23340	-1.13390	-1.05125	-0.98550	-12.44775
3	-1.78085	-1.69325	-1.61328	-1.54163	-1.42320	-1.31542	-1.22533	-1.15150	-1.09393	-12.83850
4	-1.65285	-1.64140	-1.58393	-1.53498	-1.49165	-1.40232	-1.32535	-1.26420	-1.21925	-13.11600
5	-1.50062	-1.51488	-1.53965	-1.51505	-1.49825	-1.48798	-1.43303	-1.39057	-1.36443	-13.24450
6	-1.43400	-1.45258	-1.48978	-1.51655	-1.51965	-1.51650	-1.48973	-1.45258	-1.43403	-13.30500
7	-1.36438	-1.39055	-1.43303	-1.48805	-1.49828	-1.51500	-1.53960	-1.51480	-1.50060	-13.24450
8	-1.21915	-1.26413	-1.32528	-1.40230	-1.49170	-1.53503	-1.58383	-1.64130	-1.65275	-13.11525
9	-1.09378	-1.15140	-1.22525	-1.31540	-1.42315	-1.54158	-1.61325	-1.69313	-1.78067	-12.83750
10	-0.98533	-1.05110	-1.13375	-1.23325	-1.34953	-1.48517	-1.63282	-1.73130	-1.84403	-12.44625
11	-0.89653	-0.96693	-1.05520	-1.16235	-1.28925	-1.43545	-1.60655	-1.79420	-1.86365	-12.07000

N607P — m_{12} TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



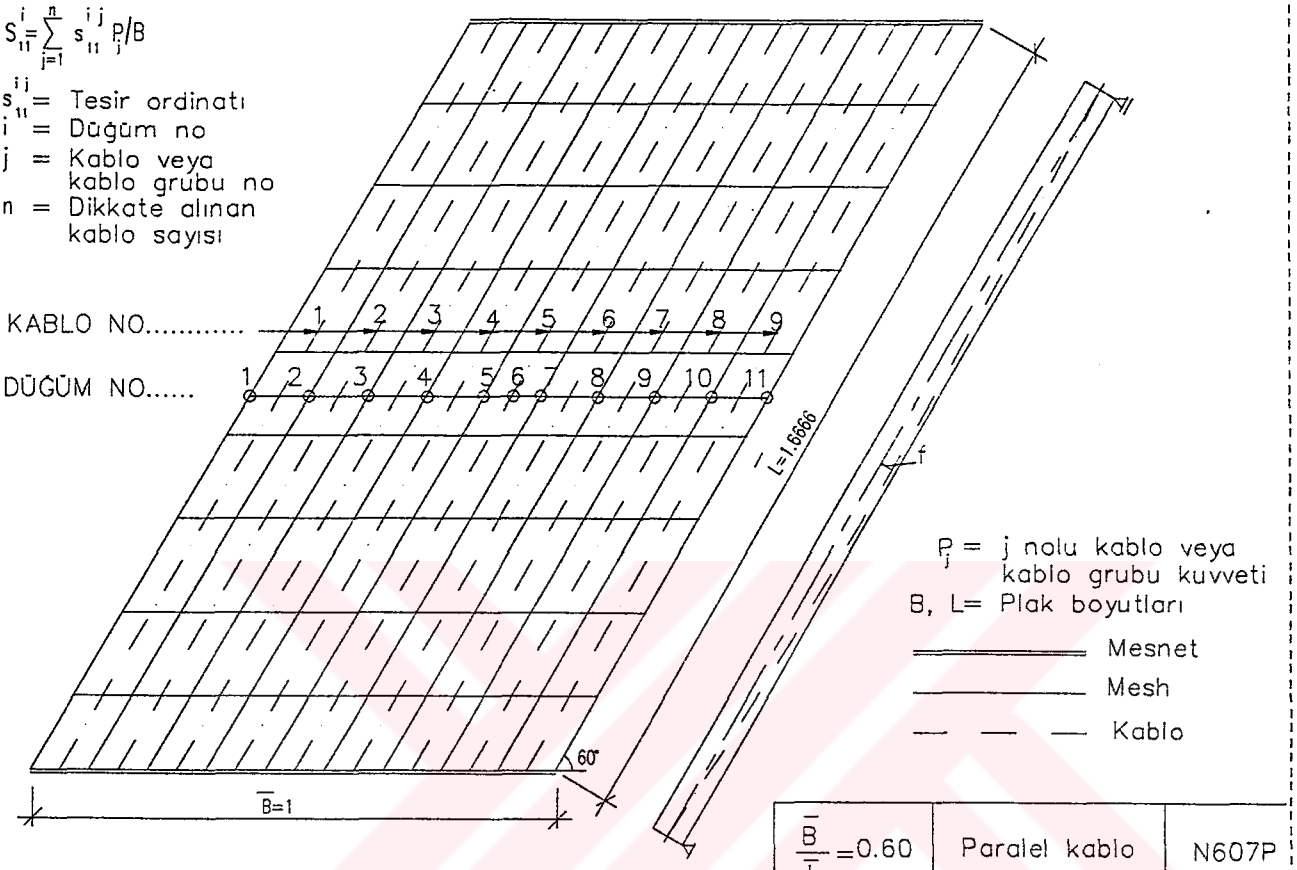
$\frac{\bar{B}}{\bar{L}}$=0.60	Paralel kablo	N607P

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.61060	-0.56791	-0.49314	-0.41149	-0.33423	-0.26186	-0.19620	-0.13745	-0.08465	-3.09750
2	-0.53050	-0.42049	-0.39176	-0.35204	-0.30233	-0.25237	-0.20323	-0.15698	-0.11449	-2.72420
3	-0.47309	-0.32101	-0.24983	-0.25612	-0.24990	-0.22946	-0.20477	-0.17803	-0.15193	-2.31413
4	-0.40368	-0.30013	-0.18599	-0.14730	-0.13154	-0.20128	-0.20557	-0.20325	-0.19819	-2.02690
5	-0.32932	-0.27205	-0.20080	-0.11568	-0.10771	-0.16615	-0.20485	-0.23146	-0.25244	-1.88045
6	-0.28860	-0.25016	-0.20555	-0.13796	-0.09464	-0.13793	-0.20558	-0.25025	-0.28874	-1.85940
7	-0.25230	-0.23136	-0.20480	-0.16617	-0.10775	-0.11567	-0.20081	-0.27213	-0.32946	-1.88045
8	-0.19804	-0.20314	-0.20551	-0.20127	-0.18159	-0.14737	-0.18601	-0.30017	-0.40378	-2.02688
9	-0.15180	-0.17792	-0.20470	-0.22943	-0.24992	-0.25620	-0.24992	-0.32106	-0.47315	-2.31410
10	-0.11436	-0.15687	-0.20314	-0.25229	-0.30229	-0.35203	-0.39180	-0.42053	-0.53047	-2.72378
11	-0.08450	-0.13729	-0.19604	-0.26170	-0.33407	-0.41134	-0.49301	-0.56782	-0.61044	-3.09620

N607P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L}$=0.60	Paralel kablo	N607P

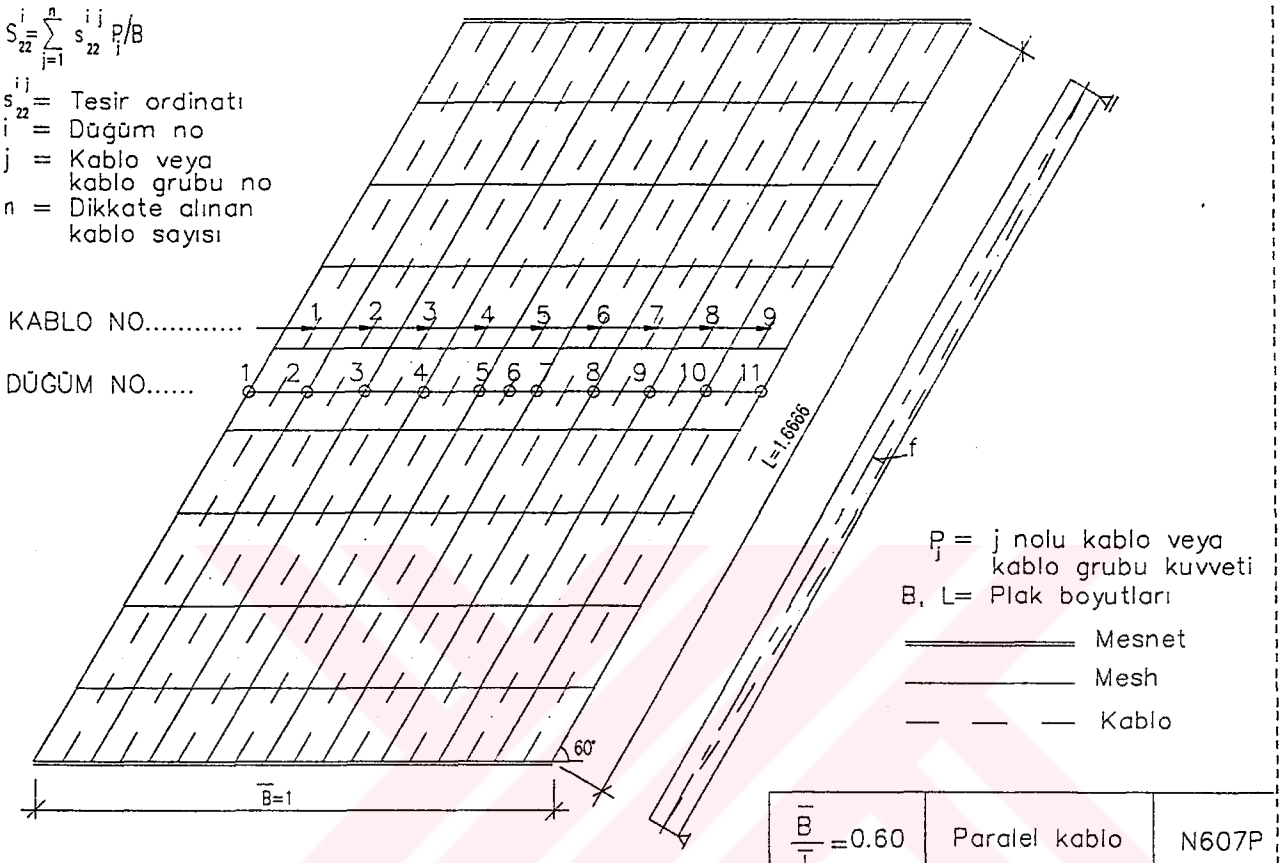
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.26809	-0.89931	-0.60611	-0.34996	-0.11512	0.05940	0.14407	0.18847	0.23074	-2.61590
2	-1.00855	-0.77472	-0.55608	-0.35563	-0.15831	-0.00410	0.06370	0.08461	0.09801	-2.61108
3	-0.89359	-0.66325	-0.46835	-0.29736	-0.13796	-0.02256	0.00180	-0.03945	-0.09838	-2.61910
4	-0.73276	-0.53574	-0.38059	-0.23766	-0.13935	-0.09195	-0.09093	-0.15533	-0.24579	-2.61010
5	-0.63081	-0.43415	-0.26911	-0.12044	-0.06872	-0.12713	-0.20763	-0.30814	-0.41472	-2.58083
6	-0.55956	-0.37685	-0.22464	-0.10005	-0.04097	-0.10012	-0.22475	-0.37696	-0.55967	-2.56355
7	-0.41470	-0.30805	-0.20748	-0.12697	-0.06860	-0.12042	-0.26919	-0.43432	-0.63106	-2.58078
8	-0.24573	-0.15525	-0.09082	-0.09180	-0.13917	-0.23754	-0.38061	-0.53589	-0.73313	-2.60993
9	-0.09838	-0.03941	0.00189	-0.02242	-0.13775	-0.29717	-0.46829	-0.66332	-0.89391	-2.61878
10	0.09807	0.08468	0.06380	-0.00397	-0.15815	-0.35549	-0.55601	-0.77477	-1.00888	-2.61068
11	0.23087	0.18860	0.14420	0.05954	-0.11499	-0.34985	-0.60603	-0.89929	-1.26832	-2.61525

N607P

s22 TESIR SAYILARI

$$S_{22}^{i}=\sum_{j=1}^{n} s_{22}^{ij} P_j/B$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



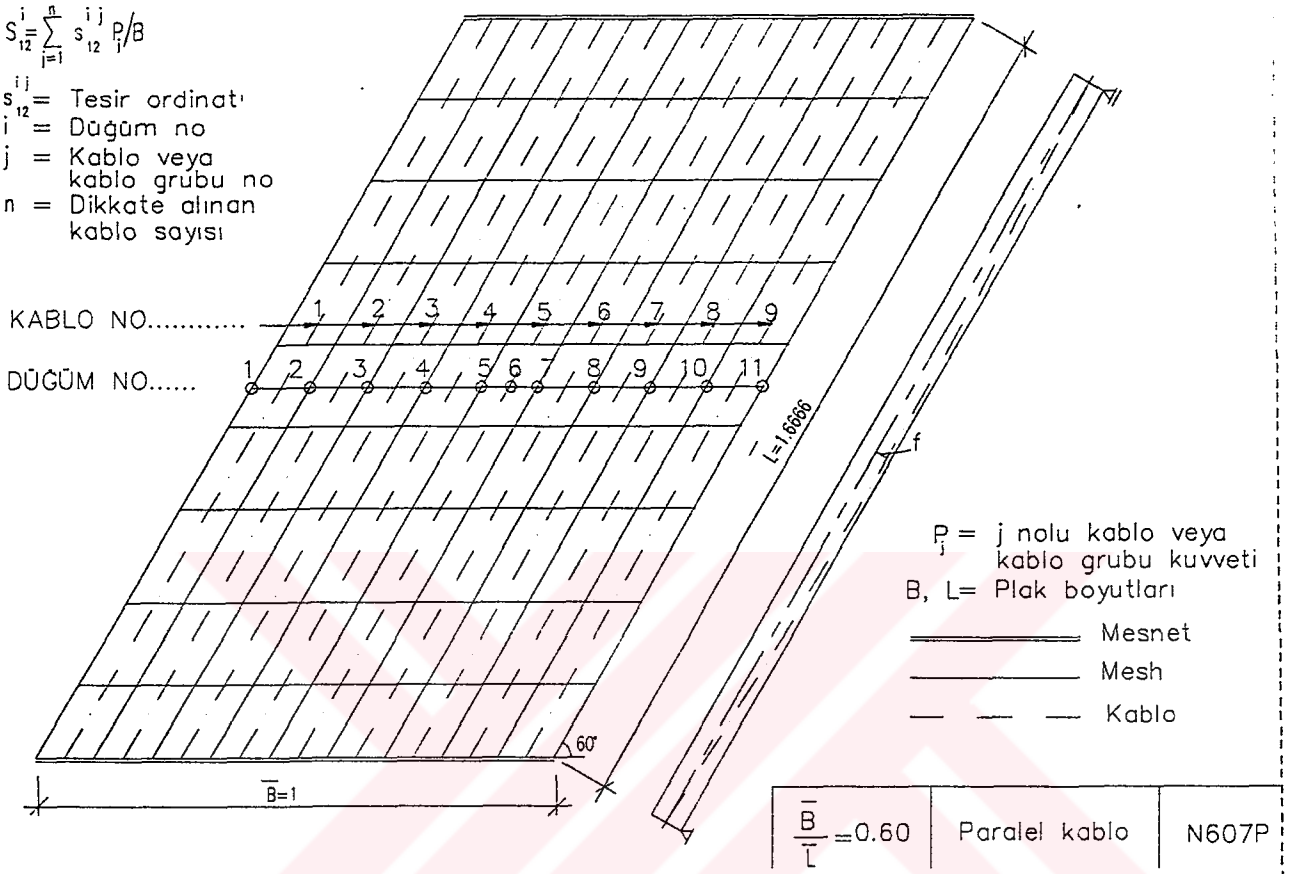
B/L =0.60	Paralel kablo	N607P

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.05865	-2.83705	-1.94075	-1.19421	-0.47593	0.14169	0.54218	0.84048	1.12775	-7.85445
2	-2.45815	-2.17667	-1.79470	-1.38910	-0.92597	-0.42656	0.03754	0.46033	0.85483	-7.81848
3	-2.00657	-1.80545	-1.51055	-1.20737	-0.93836	-0.64447	-0.27905	0.10386	0.46957	-7.81840
4	-1.64494	-1.41371	-1.19529	-0.96946	-0.85110	-0.77640	-0.57418	-0.30925	-0.02872	-7.76305
5	-1.08242	-1.03167	-0.96321	-0.85439	-0.77775	-0.80249	-0.82246	-0.75603	-0.65424	-7.74468
6	-0.81548	-0.79347	-0.83359	-0.93424	-1.00235	-0.93440	-0.83397	-0.79424	-0.81666	-7.75838
7	-0.65321	-0.75527	-0.82195	-0.80216	-0.77765	-0.85458	-0.96370	-1.03243	-1.08363	-7.74458
8	-0.02784	-0.30860	-0.57373	-0.77600	-0.85063	-0.96925	-1.19557	-1.41450	-1.64671	-7.76283
9	0.47036	0.10449	-0.27859	-0.64410	-0.93784	-1.20700	-1.51073	-1.80630	-2.00858	-7.81830
10	0.85538	0.46085	0.03803	-0.42609	-0.92547	-1.38875	-1.79475	-2.17730	-2.45997	-7.81807
11	1.12805	0.84088	0.54269	0.14229	-0.47524	-1.19362	-1.94035	-2.83690	-4.05940	-7.85165

N607P — s12 TESİR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L}$ =0.60	Paralel kablo	N607P

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.32238	-1.44275	-1.27175	-0.92842	-0.53655	-0.17730	0.14965	0.41323	0.64387	-4.47250
2	-1.72615	-1.36080	-1.01690	-0.64406	-0.33214	-0.10898	0.09068	0.24453	0.37846	-4.47532
3	-1.26385	-1.07052	-0.88288	-0.67404	-0.45996	-0.26845	-0.09781	0.05616	0.19521	-4.46615
4	-0.76335	-0.81479	-0.78957	-0.75537	-0.61368	-0.41613	-0.26999	-0.11547	0.03461	-4.50373
5	-0.43883	-0.55890	-0.65047	-0.73656	-0.74175	-0.60609	-0.43379	-0.27243	-0.09932	-4.53815
6	-0.28966	-0.48249	-0.59083	-0.60637	-0.58559	-0.60609	-0.59031	-0.48171	-0.28857	-4.52163
7	-0.10016	-0.27310	-0.43432	-0.60653	-0.74210	-0.73659	-0.65004	-0.55803	-0.43736	-4.53823
8	0.03384	-0.11607	-0.27047	-0.41660	-0.61427	-0.75569	-0.78927	-0.81389	-0.76142	-4.50380
9	0.19450	0.05557	-0.09830	-0.26890	-0.46054	-0.67441	-0.88270	-1.06966	-1.26169	-4.46610
10	0.37789	0.24401	0.09021	-0.10945	-0.33267	-0.64445	-1.01685	-1.36010	-1.72381	-4.47520
11	0.64307	0.41253	0.14907	-0.17778	-0.53695	-0.92857	-1.27145	-1.44160	-1.31943	-4.47105

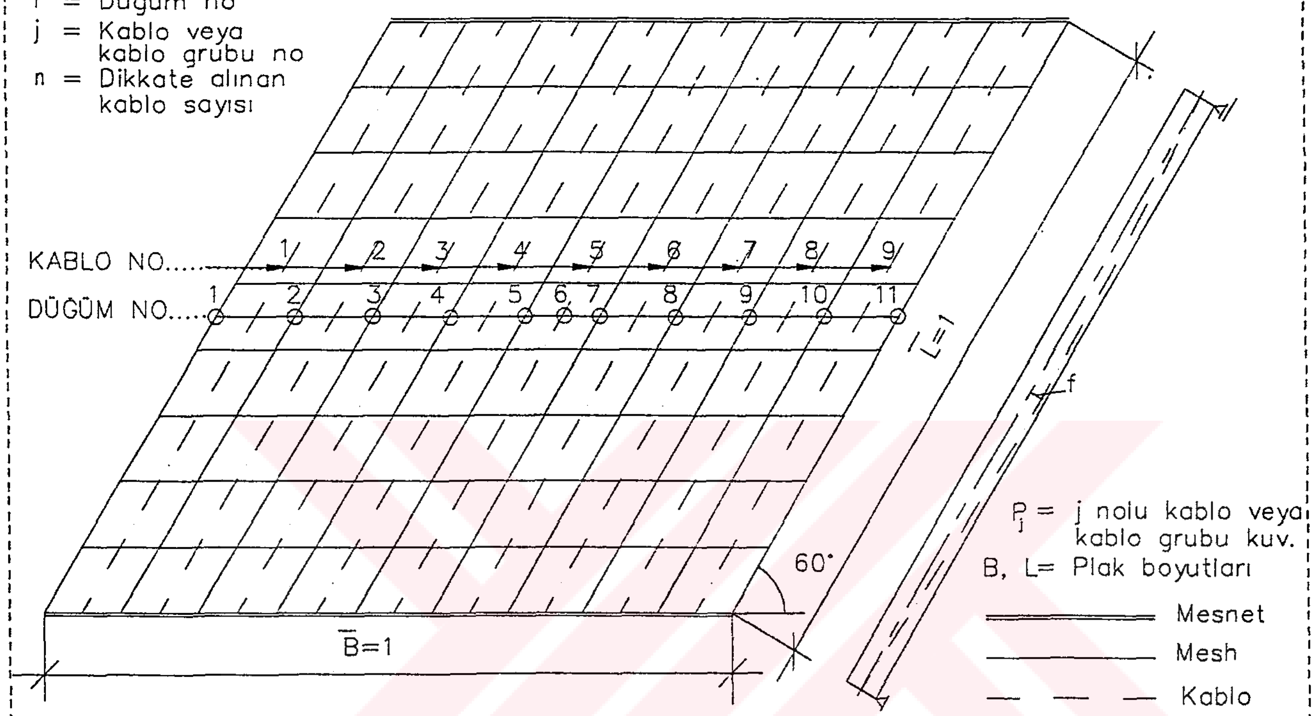
N608P

m11 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}}=1$	Paralel kablo	N608P

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



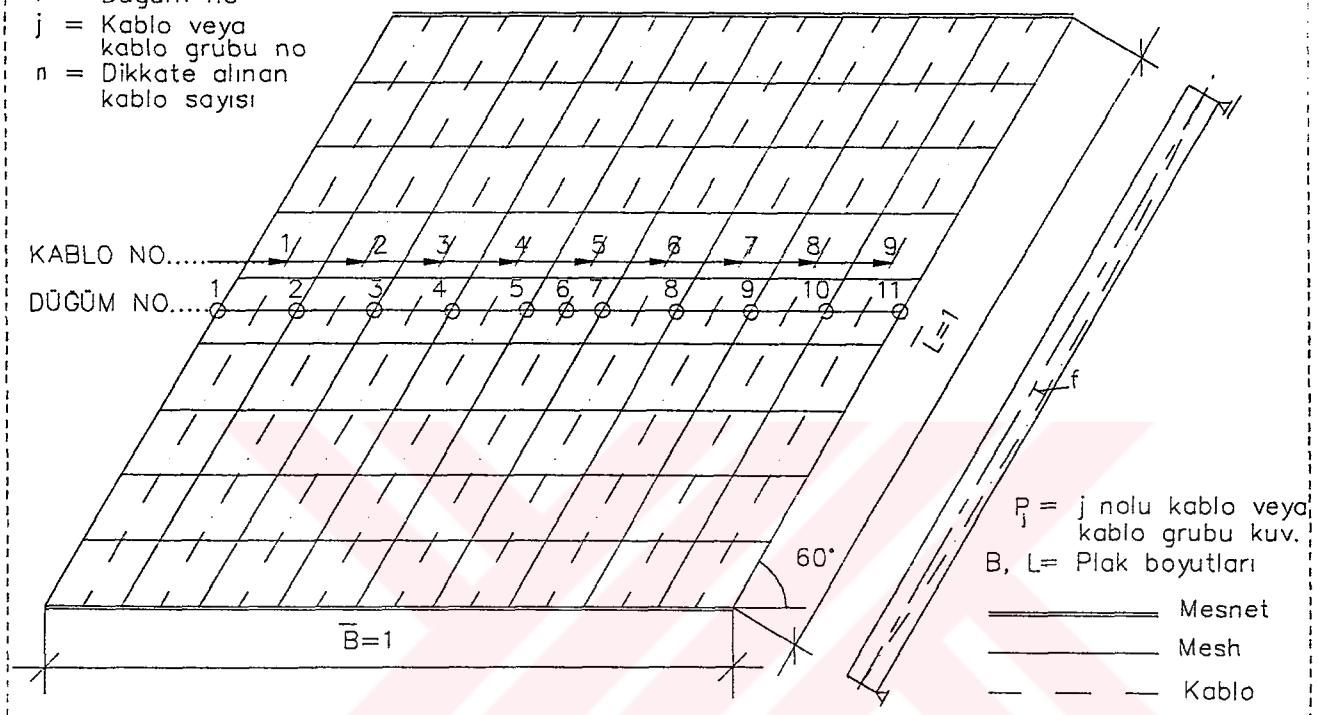
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.10833	-0.05321	-0.02538	0.00374	0.03076	0.04790	0.05726	0.06246	0.06663	0.08183
2	-0.07603	-0.27327	-0.14467	-0.04293	0.01977	0.05726	0.07617	0.08611	0.09362	-0.20397
3	0.17160	-0.26390	-0.38227	-0.19743	-0.05889	0.02609	0.07845	0.11031	0.13396	-0.38208
4	0.27652	-0.04023	-0.39186	-0.45062	-0.22521	-0.05559	0.05563	0.13095	0.18799	-0.51243
5	0.27899	0.08297	-0.15855	-0.44421	-0.46132	-0.22056	-0.02488	0.12381	0.24145	-0.58231
6	0.26207	0.10502	-0.08357	-0.33191	-0.47623	-0.33190	-0.08357	0.10502	0.26207	-0.57301
7	0.24145	0.12381	-0.02488	-0.22056	-0.46132	-0.44421	-0.15856	0.08297	0.27899	-0.58231
8	0.18799	0.13095	0.05563	-0.05559	-0.22521	-0.45062	-0.39186	-0.04023	0.27652	-0.51243
9	0.13396	0.11031	0.07845	0.02609	-0.05889	-0.19742	-0.38227	-0.26390	0.17160	-0.38208
10	0.09362	0.08611	0.07617	0.05726	0.01977	-0.04293	-0.14467	-0.27327	-0.07603	-0.20397
11	0.06663	0.06246	0.05726	0.04790	0.03076	0.00374	-0.02538	-0.05321	-0.10833	0.08183

N608P — m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N608P



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

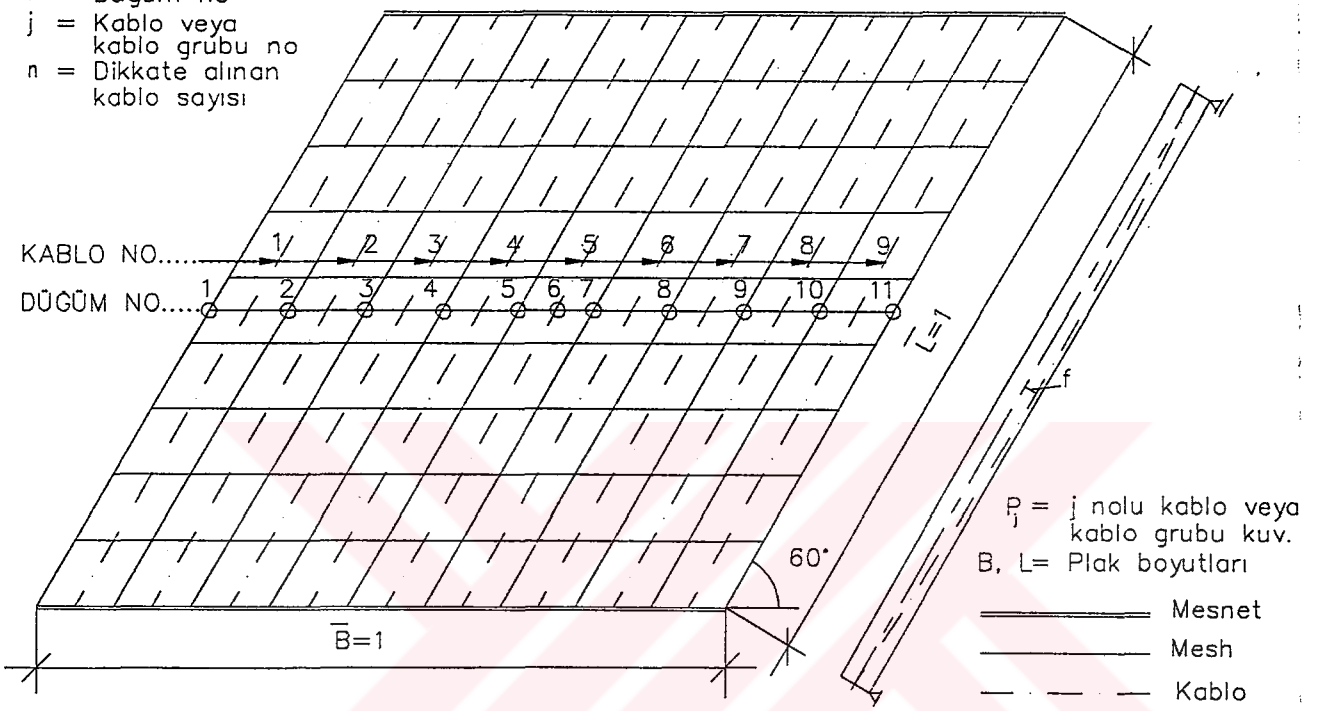
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.66450	-1.43390	-1.11770	-0.86718	-0.66788	-0.51428	-0.39986	-0.31657	-0.25657	-7.23835
2	-1.54988	-1.36923	-1.16915	-0.93584	-0.74362	-0.58784	-0.46650	-0.37572	-0.30976	-7.50750
3	-1.36130	-1.28303	-1.17058	-1.02241	-0.83622	-0.68307	-0.55822	-0.46179	-0.39096	-7.76755
4	-1.10005	-1.12193	-1.10395	-1.04552	-0.94258	-0.79393	-0.67371	-0.57690	-0.50521	-7.86378
5	-0.85633	-0.90457	-0.98207	-1.00809	-0.98291	-0.91903	-0.81223	-0.72658	-0.66304	-7.85483
6	-0.75706	-0.81225	-0.89293	-0.98270	-1.02540	-0.98270	-0.89293	-0.81225	-0.75706	-7.91525
7	-0.66304	-0.72658	-0.81223	-0.91903	-0.98291	-1.00809	-0.98207	-0.90457	-0.85633	-7.85483
8	-0.50521	-0.57690	-0.67371	-0.79393	-0.94258	-1.04552	-1.10395	-1.12193	-1.10005	-7.86378
9	-0.39096	-0.46179	-0.55822	-0.68307	-0.83622	-1.02241	-1.17058	-1.28303	-1.36130	-7.76755
10	-0.30976	-0.37572	-0.46650	-0.58784	-0.74362	-0.93585	-1.16915	-1.36923	-1.54988	-7.50750
11	-0.25657	-0.31657	-0.39986	-0.51428	-0.66788	-0.86718	-1.11770	-1.43390	-1.66450	-7.23835

N608P — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\overline{L}}{\overline{L}}$

$\frac{\overline{B}}{\overline{L}} = 1$	Paralel kablo	N608P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

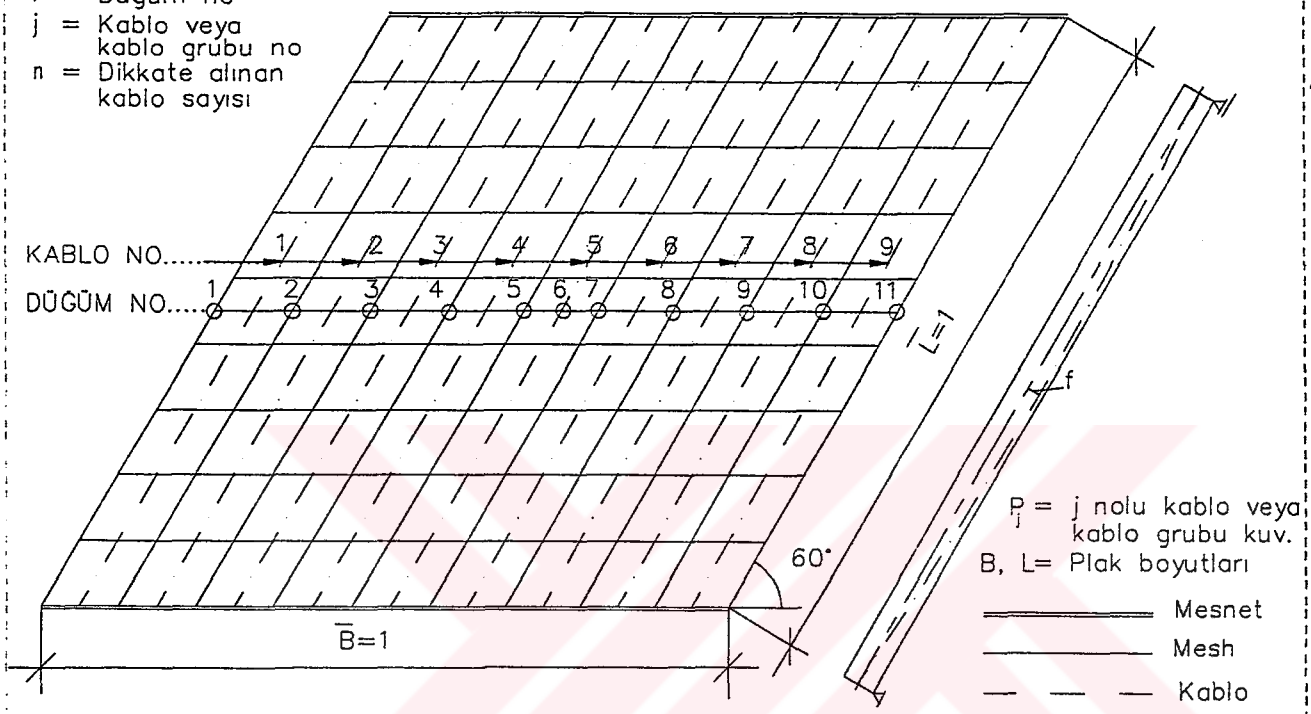
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.53908	-0.44606	-0.32962	-0.22570	-0.14461	-0.08647	-0.04735	-0.02099	-0.00192	-1.84180
2	-0.39218	-0.25180	-0.22984	-0.18496	-0.13349	-0.08878	-0.05459	-0.03020	-0.01251	-1.37835
3	-0.29288	-0.12632	-0.06495	-0.10205	-0.10226	-0.08277	-0.05956	-0.03968	-0.02466	-0.89516
4	-0.18824	-0.11414	-0.00184	0.02008	-0.04568	-0.06731	-0.06376	-0.05159	-0.03992	-0.55240
5	-0.11222	-0.09197	-0.04657	0.04423	0.04542	-0.03350	-0.06152	-0.06591	-0.06169	-0.38373
6	-0.08181	-0.07707	-0.05845	0.00198	0.04791	0.00198	-0.05845	-0.07707	-0.08181	-0.38278
7	-0.06169	-0.06591	-0.06152	-0.03350	0.04542	0.04423	-0.04657	-0.09197	-0.11222	-0.38373
8	-0.03992	-0.05159	-0.06376	-0.06731	-0.04568	0.02008	-0.00184	-0.11414	-0.18824	-0.55240
9	-0.02466	-0.03968	-0.05956	-0.08277	-0.10226	-0.10205	-0.06495	-0.12632	-0.29288	-0.89516
10	-0.01251	-0.03020	-0.05459	-0.08878	-0.13349	-0.18496	-0.22984	-0.25180	-0.39218	-1.37835
11	-0.00192	-0.02099	-0.04735	-0.08647	-0.14461	-0.22570	-0.32962	-0.44606	-0.53908	-1.84180

N608P — sil TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N608P



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

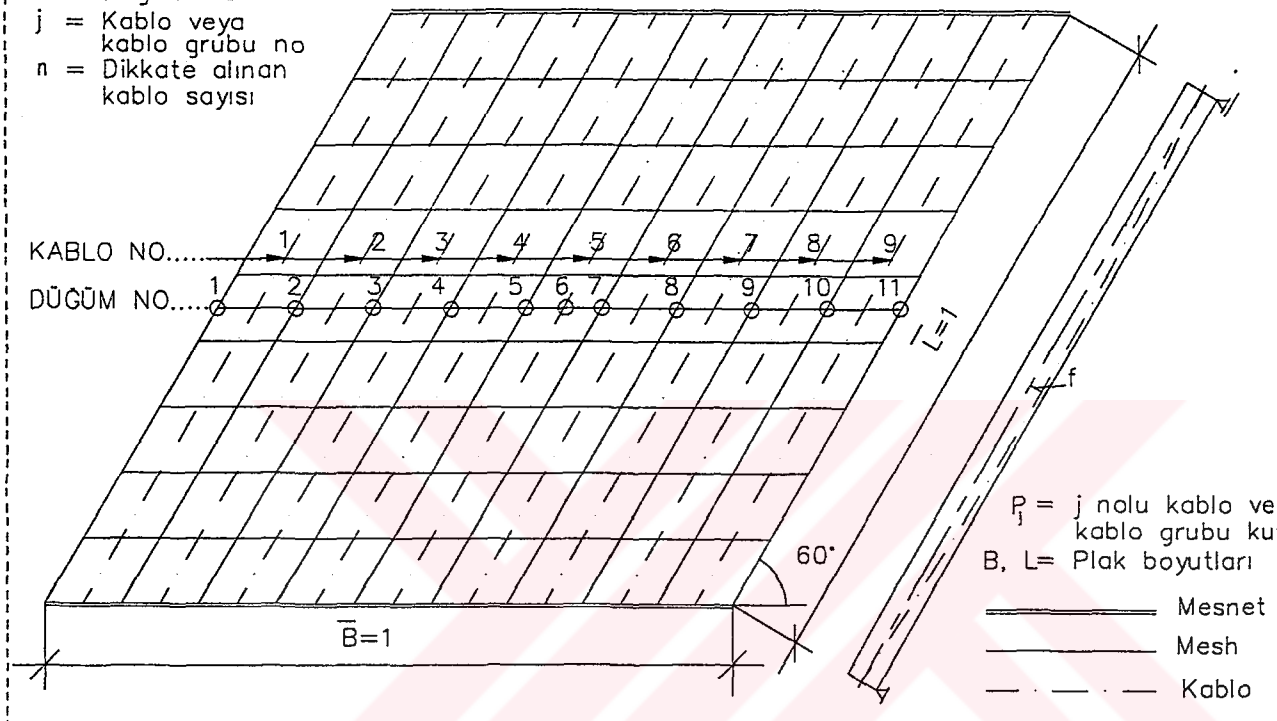
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.72620	-1.05043	-0.39377	0.09167	0.23492	0.14594	0.04713	0.00256	-0.01623	-2.66440
2	-1.44023	-0.89295	-0.36847	0.00888	0.13041	0.07221	-0.01097	-0.05540	-0.07517	-2.63170
3	-1.27535	-0.74605	-0.29434	0.01468	0.11891	0.05796	-0.06508	-0.17350	-0.24968	-2.61243
4	-1.05653	-0.59434	-0.25075	-0.02857	0.07264	0.04892	-0.08224	-0.26614	-0.44774	-2.60470
5	-0.92352	-0.45900	-0.17996	-0.02969	0.04386	0.04555	-0.06925	-0.33577	-0.68071	-2.58852
6	-0.83527	-0.36532	-0.10047	-0.00098	0.02293	-0.00098	-0.10047	-0.36532	-0.83527	-2.58110
7	-0.68071	-0.33577	-0.06925	0.04555	0.04386	-0.02969	-0.17996	-0.45900	-0.92352	-2.58852
8	-0.44774	-0.26614	-0.08224	0.04892	0.07264	-0.02857	-0.25075	-0.59434	-1.05653	-2.60470
9	-0.24968	-0.17350	-0.06508	0.05796	0.11891	0.01468	-0.29434	-0.74605	-1.27535	-2.61243
10	-0.07517	-0.05539	-0.01097	0.07221	0.13041	0.00888	-0.36847	-0.89295	-1.44023	-2.63170
11	-0.01623	0.00256	0.04713	0.14594	0.23492	0.09167	-0.39377	-1.05043	-1.72620	-2.66440

N608P — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N608P



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.90105	-3.23605	-1.64030	-0.23642	0.54978	0.61351	0.40111	0.26543	0.21685	-7.96720
2	-2.97265	-2.35790	-1.74688	-1.13121	-0.47430	0.01124	0.21086	0.28616	0.36220	-7.81247
3	-2.09062	-1.74873	-1.48955	-1.31982	-1.02363	-0.52808	-0.08104	0.17749	0.35533	-7.74863
4	-1.26690	-1.34501	-1.30203	-1.26721	-1.23759	-1.00292	-0.53413	-0.07077	0.27651	-7.75005
5	-0.46299	-1.04216	-1.25955	-1.25861	-1.27753	-1.22210	-0.88937	-0.38573	0.03205	-7.76595
6	-0.03375	-0.61240	-1.15282	-1.39125	-1.41750	-1.39125	-1.15282	-0.61240	-0.03375	-7.79795
7	0.03205	-0.38573	-0.88937	-1.22210	-1.27753	-1.25861	-1.25955	-1.04216	-0.46299	-7.76595
8	0.27651	-0.07077	-0.53413	-1.00292	-1.23759	-1.26721	-1.30203	-1.34501	-1.26690	-7.75005
9	0.35533	0.17749	-0.08104	-0.52808	-1.02363	-1.31982	-1.48955	-1.74872	-2.09062	-7.74863
10	0.36220	0.28616	0.21086	0.01124	-0.47430	-1.13121	-1.74688	-2.35790	-2.97265	-7.81247
11	0.21685	0.26543	0.40111	0.61351	0.54978	-0.23642	-1.64030	-3.23605	-4.90105	-7.96720

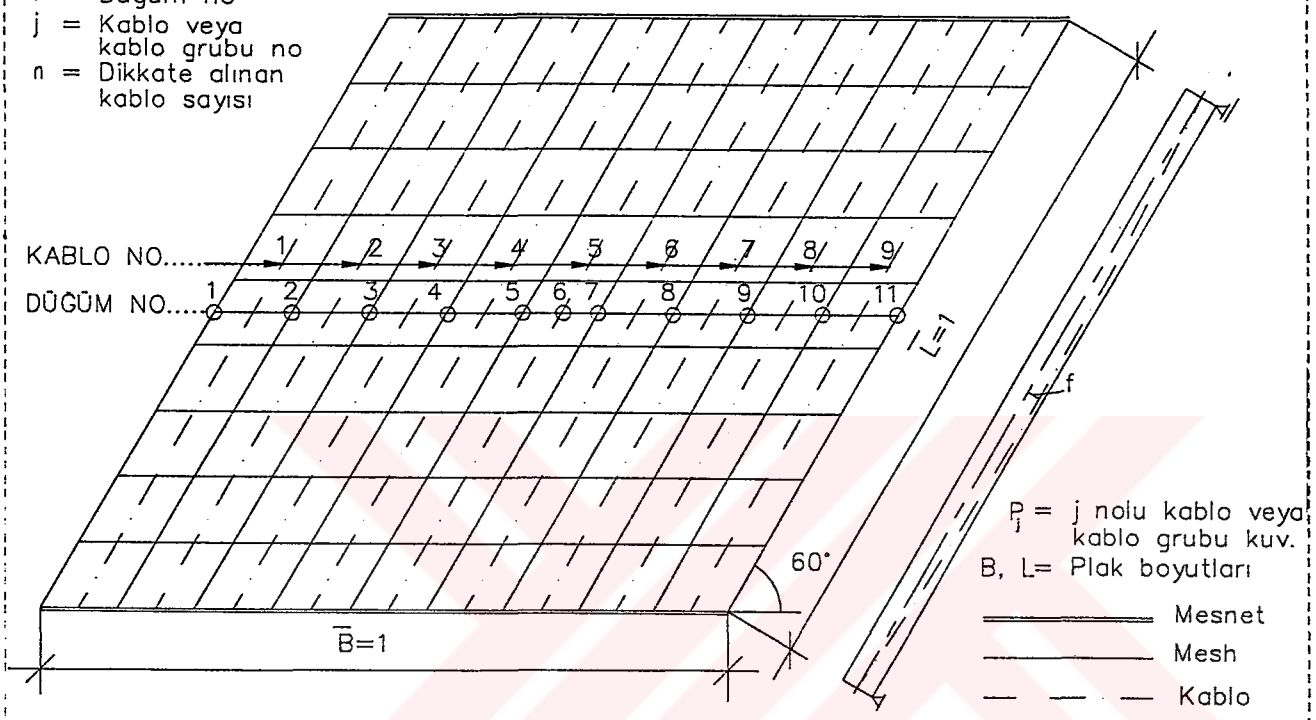
N608P

s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1$	Paralel kablo	N608P



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

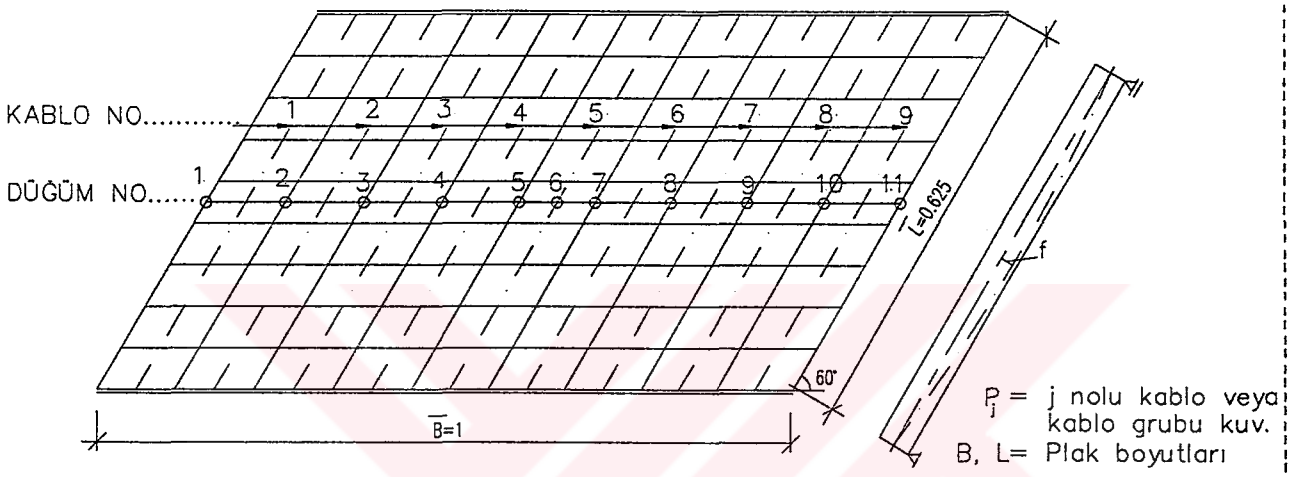
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.44540	-1.67735	-0.84485	-0.27700	-0.00378	0.16889	0.24889	0.22447	0.19064	-4.41550
2	-2.15307	-1.47205	-0.82593	-0.31343	-0.04297	0.06735	0.11486	0.10060	0.07244	-4.45220
3	-1.10235	-1.15263	-1.06402	-0.77568	-0.40559	-0.13213	0.00399	0.05368	0.06299	-4.51178
4	-0.25577	-0.73191	-1.07978	-1.14415	-0.87300	-0.45623	-0.13115	0.03730	0.11270	-4.52195
5	0.15558	-0.25878	-0.76693	-1.15209	-1.17275	-0.88876	-0.50257	-0.12876	0.20612	-4.50890
6	0.12854	-0.26936	-0.60362	-0.94507	-1.10815	-0.94507	-0.60362	-0.26936	0.12854	-4.48715
7	0.20612	-0.12876	-0.50257	-0.88876	-1.17275	-1.15209	-0.76693	-0.25878	0.15558	-4.50890
8	0.11270	0.03730	-0.13115	-0.45623	-0.87299	-1.14415	-1.07978	-0.73191	-0.25577	-4.52195
9	0.06299	0.05368	0.00399	-0.13213	-0.40559	-0.77568	-1.06402	-1.15263	-1.10235	-4.51178
10	0.07244	0.10060	0.11486	0.06735	-0.04297	-0.31343	-0.82593	-1.47205	-2.15307	-4.45220
11	0.19064	0.22447	0.24889	0.16889	-0.00378	-0.27700	-0.84485	-1.67735	-2.44540	-4.41550

N609P — mll TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N609P

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.14842	-0.01405	0.02482	0.04728	0.05165	0.04345	0.03281	0.02407	0.01820	0.07981
2	-0.10757	-0.50133	-0.12483	0.04089	0.08338	0.07918	0.06230	0.04696	0.03651	-0.38450
3	0.31619	-0.53773	-0.68915	-0.18830	0.03332	0.09679	0.09843	0.08410	0.07163	-0.71472
4	0.35142	-0.05159	-0.71407	-0.76058	-0.20750	0.03944	0.11604	0.12662	0.12313	-0.97709
5	0.27900	0.13178	-0.16465	-0.74559	-0.76411	-0.22112	0.04464	0.15045	0.19151	-1.09810
6	0.23352	0.14509	-0.04110	-0.45101	-0.73150	-0.45157	-0.04143	0.14502	0.23359	-0.95938
7	0.19144	0.15043	0.04475	-0.22086	-0.76404	-0.74578	-0.16478	0.13178	0.27913	-1.09793
8	0.12307	0.12657	0.11604	0.03954	-0.20725	-0.76041	-0.71421	-0.05180	0.35143	-0.97703
9	0.07159	0.08406	0.09840	0.09681	0.03345	-0.18804	-0.68896	-0.53780	0.31616	-0.71434
10	0.03649	0.04693	0.06227	0.07915	0.08337	0.04094	-0.12475	-0.50150	-0.10821	-0.38530
11	0.01818	0.02405	0.03280	0.04345	0.05168	0.04742	0.02524	-0.01326	-0.14780	0.08177

N609P — m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N609P

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

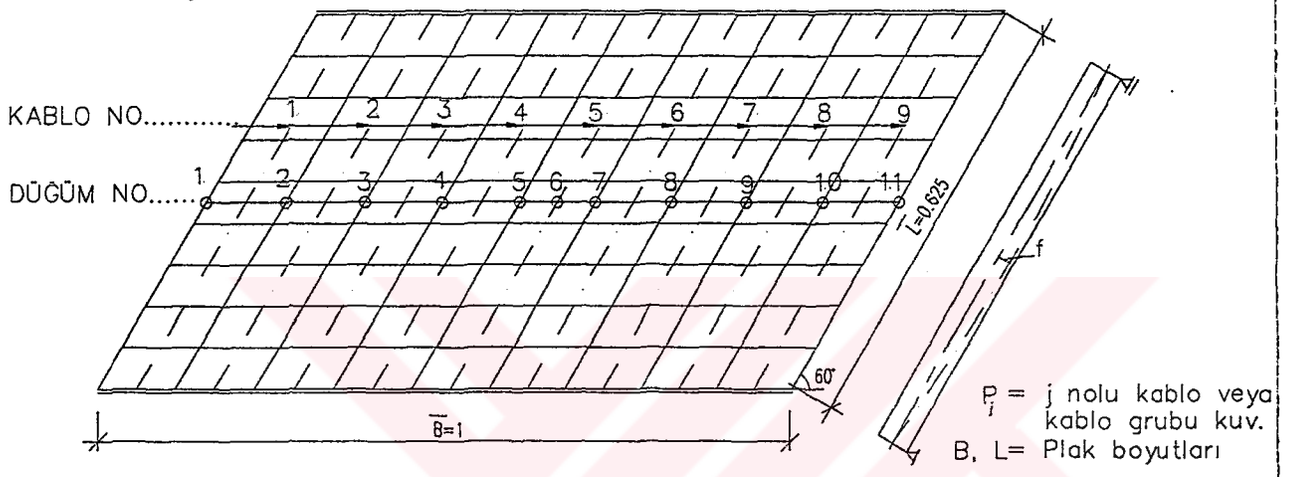
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.56910	-1.87090	-1.18675	-0.73545	-0.44361	-0.26556	-0.15973	-0.09808	-0.06196	-7.39110
2	-2.20230	-1.83248	-1.36053	-0.89994	-0.57385	-0.35505	-0.21886	-0.13734	-0.08906	-7.66940
3	-1.63302	-1.63023	-1.46653	-1.13248	-0.76900	-0.50511	-0.32385	-0.21011	-0.14134	-7.81168
4	-1.05228	-1.22883	-1.36225	-1.30163	-1.04128	-0.72404	-0.49068	-0.33170	-0.23258	-7.76520
5	-0.64639	-0.81652	-1.06945	-1.25680	-1.22270	-1.00317	-0.73478	-0.52876	-0.39037	-7.66893
6	-0.50512	-0.66094	-0.88404	-1.16092	-1.30988	-1.16065	-0.88405	-0.66103	-0.50524	-7.73185
7	-0.39031	-0.52869	-0.73470	-1.00310	-1.22265	-1.25680	-1.06955	-0.81671	-0.64655	-7.66895
8	-0.23253	-0.33163	-0.49059	-0.72397	-1.04128	-1.30168	-1.36223	-1.22890	-1.05250	-7.76530
9	-0.14131	-0.21007	-0.32377	-0.50500	-0.76888	-1.13248	-1.46655	-1.63020	-1.63308	-7.81137
10	-0.08904	-0.13732	-0.21884	-0.35504	-0.57385	-0.90002	-1.36085	-1.83305	-2.20320	-7.67123
11	-0.06185	-0.09790	-0.15944	-0.26507	-0.44276	-0.73402	-1.18445	-1.86765	-2.56440	-7.37755

N609P — m_{12} TESIR SAYILARI

$$M_{12}=\sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}}=1.6$	Paralel kablo	N609P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

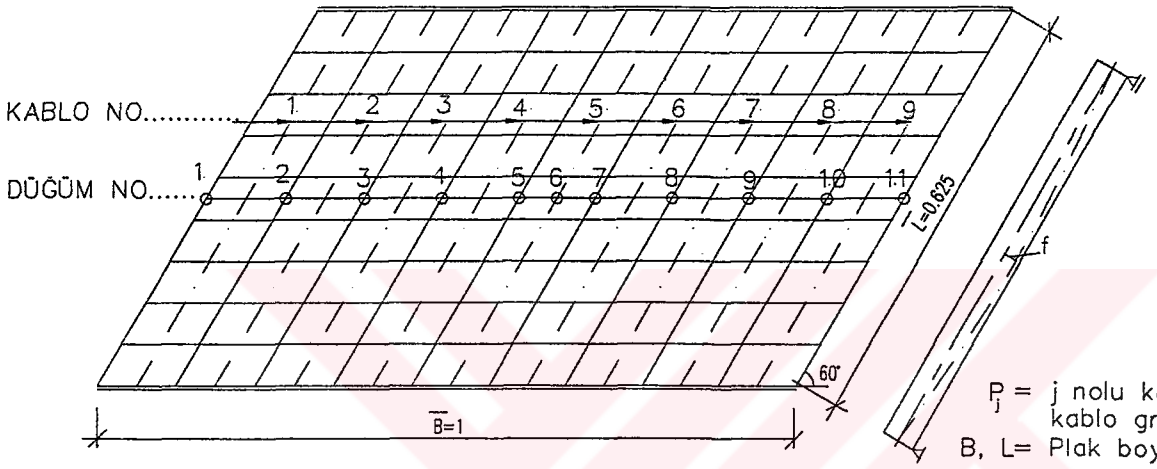
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.78342	-0.53129	-0.29250	-0.13560	-0.05354	-0.01738	-0.00320	0.00210	0.00436	-1.81045
2	-0.44391	-0.21040	-0.20676	-0.13526	-0.06827	-0.02952	-0.01168	-0.00400	-0.00041	-1.11019
3	-0.24737	-0.02854	0.02270	-0.08221	-0.07445	-0.04179	-0.01949	-0.00870	-0.00374	-0.48358
4	-0.10393	-0.07505	0.07604	0.08634	-0.04518	-0.05465	-0.03178	-0.01436	-0.00571	-0.16828
5	-0.03812	-0.05895	-0.04319	0.09970	0.09744	-0.04028	-0.04802	-0.02688	-0.01070	-0.06901
6	-0.01884	-0.04007	-0.05531	0.00615	0.07048	0.00661	-0.05525	-0.04020	-0.01905	-0.14549
7	-0.01035	-0.02649	-0.04762	-0.04001	0.09750	0.10001	-0.04264	-0.05858	-0.03785	-0.06602
8	-0.00565	-0.01429	-0.03172	-0.05467	-0.04540	0.08614	0.07616	-0.07495	-0.10413	-0.16852
9	-0.00369	-0.00865	-0.01943	-0.04173	-0.07447	-0.08245	0.02244	-0.02856	-0.24754	-0.48408
10	-0.00038	-0.00396	-0.01164	-0.02947	-0.06822	-0.13528	-0.20704	-0.21075	-0.44416	-1.11089
11	0.00437	0.00212	-0.00317	-0.01731	-0.05341	-0.13537	-0.29215	-0.53092	-0.78252	-1.80835

N609P — s_{11} TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

$\frac{B}{L} = 1.6$	Paralel kablo	N609P

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L = Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.37195	-0.74410	0.23847	0.28642	0.07249	-0.01687	-0.03366	-0.01845	-0.00809	-2.59575
2	-1.84747	-0.65352	0.04145	0.11707	-0.04000	-0.09594	-0.06670	-0.03209	-0.01165	-2.58890
3	-1.44315	-0.49053	-0.03695	0.01355	-0.12140	-0.20851	-0.16787	-0.09293	-0.04373	-2.59148
4	-1.03372	-0.40870	-0.13427	-0.07973	-0.12952	-0.21753	-0.25274	-0.20464	-0.13836	-2.59920
5	-0.72559	-0.35962	-0.15714	-0.14253	-0.15834	-0.16764	-0.24976	-0.31491	-0.31791	-2.59340
6	-0.51159	-0.35844	-0.18795	-0.14305	-0.17941	-0.14301	-0.18751	-0.35796	-0.51161	-2.58053
7	-0.31779	-0.31490	-0.24988	-0.16721	-0.15698	-0.14114	-0.15648	-0.35950	-0.72568	-2.58953
8	-0.13814	-0.20458	-0.25293	-0.21795	-0.12974	-0.07971	-0.13424	-0.40866	-1.03349	-2.59945
9	-0.04359	-0.09284	-0.16788	-0.20884	-0.12177	0.01351	-0.03684	-0.49054	-1.44297	-2.59172
10	-0.01159	-0.03205	-0.06668	-0.09616	-0.04045	0.11670	0.04144	-0.65292	-1.84573	-2.58743
11	-0.00804	-0.01844	-0.03366	-0.01720	0.07173	0.28556	0.23845	-0.74191	-2.36655	-2.59005

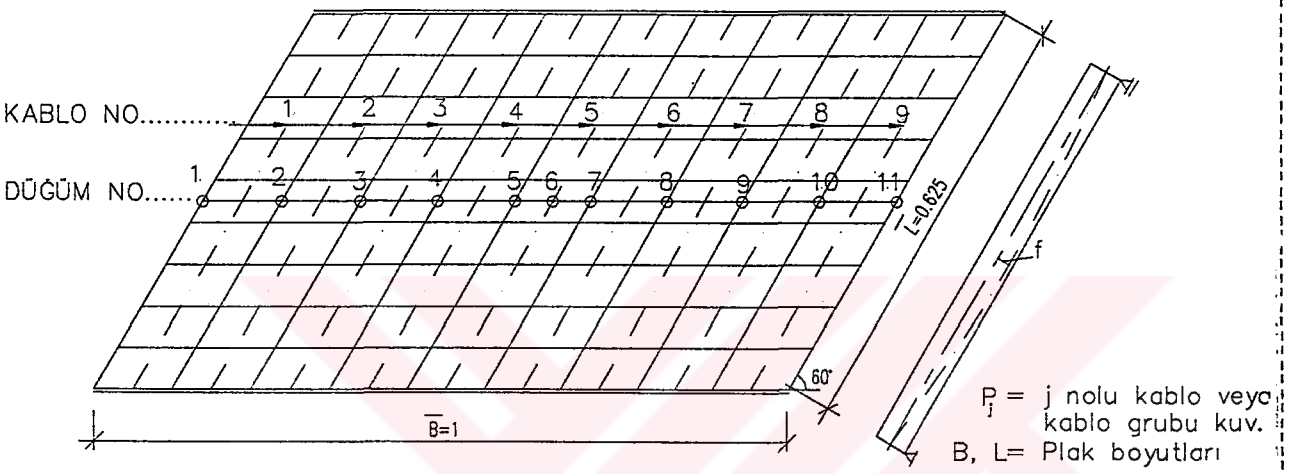
N609P

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N609P

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

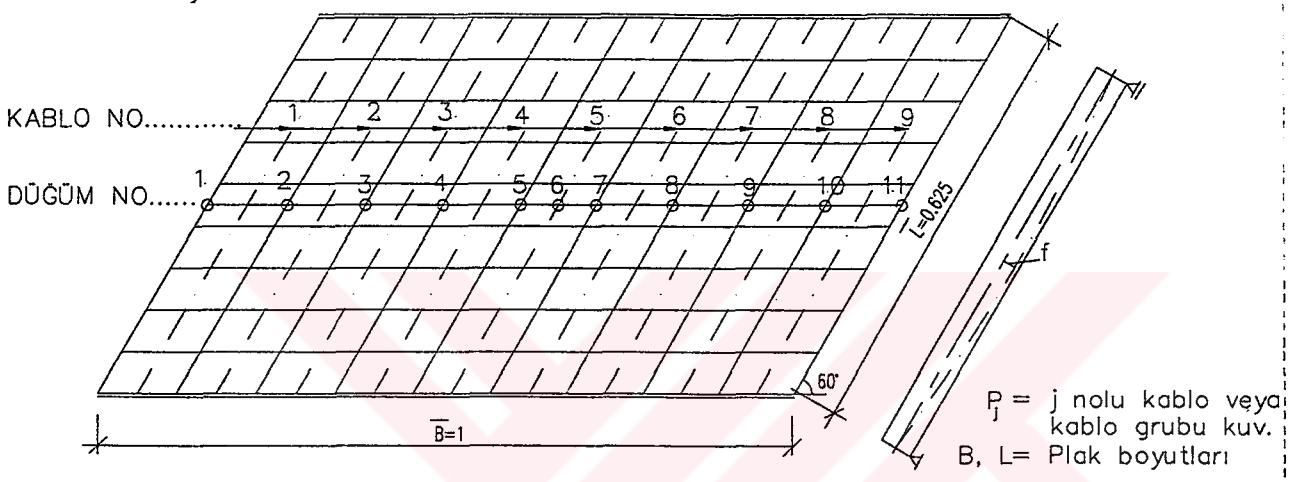
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-6.59900	-2.94175	-0.19818	0.81051	0.76877	0.38066	0.04971	-0.01817	-0.04129	-7.78880
2	-3.62907	-2.58358	-1.63987	-0.60406	0.14972	0.31668	0.15583	0.03958	-0.01645	-7.81123
3	-1.79662	-1.94900	-1.93790	-1.67100	-0.83906	0.00260	0.23094	0.12780	0.02184	-7.81040
4	-0.30026	-1.52950	-1.90870	-1.90745	-1.65663	-0.78397	0.01928	0.21006	0.12852	-7.72863
5	0.40112	-0.80363	-1.64150	-1.87365	-1.95045	-1.64303	-0.65132	0.11807	0.27915	-7.76533
6	0.46903	-0.23150	-1.24798	-1.91113	-1.99525	-1.91113	-1.24789	-0.23057	0.47090	-7.83547
7	0.27937	0.11728	-0.65244	-1.64463	-1.95233	-1.87545	-1.64263	-0.80328	0.40395	-7.77020
8	0.12907	0.20973	0.01824	-0.78544	-1.65743	-1.90765	-1.90883	-1.52968	-0.29884	-7.73083
9	0.02235	0.12776	0.23023	0.00080	-0.84027	-1.67108	-1.93795	-1.94943	-1.79601	-7.81360
10	-0.01613	0.03960	0.15547	0.31496	0.14779	-0.60465	-1.63963	-2.58260	-3.62545	-7.81067
11	-0.04101	-0.01813	0.04951	0.37849	0.76481	0.80764	-0.19697	-2.93320	-6.58000	-7.76885

N609P — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1.6$	Paralel kablo	N609P



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

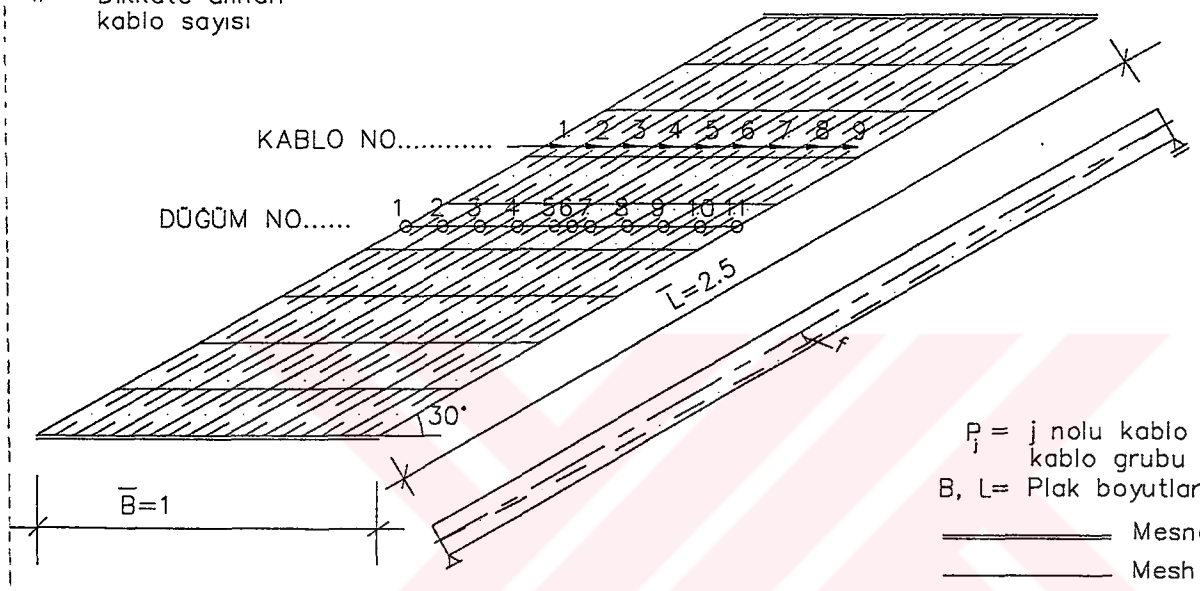
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.77030	-1.37685	0.14817	0.31693	0.01656	0.00362	0.09613	0.04799	0.02978	-4.48805
2	-2.37193	-1.50873	-0.54885	-0.02798	-0.05482	-0.06704	0.02850	0.03215	0.03932	-4.47938
3	-0.57184	-1.50800	-1.55757	-0.73648	-0.13970	-0.08017	-0.04626	0.01001	0.06802	-4.56205
4	0.18114	-0.63113	-1.59183	-1.66308	-0.80130	-0.13731	-0.02225	-0.00628	0.09229	-4.57975
5	0.20480	0.07309	-0.69786	-1.63425	-1.59743	-0.77208	-0.17792	-0.01314	0.14708	-4.46767
6	0.13014	0.02085	-0.32787	-1.17618	-1.70543	-1.17708	-0.32914	0.02007	0.13109	-4.41348
7	0.14639	-0.01314	-0.17718	-0.77064	-1.59635	-1.63407	-0.69833	0.07250	0.20557	-4.46525
8	0.09176	-0.00638	-0.02211	-0.13678	-0.80077	-1.66322	-1.59273	-0.63175	0.18302	-4.57895
9	0.06768	0.00983	-0.04645	-0.08021	-0.13949	-0.73629	-1.55773	-1.50803	-0.57007	-4.56078
10	0.03920	0.03201	0.02819	-0.06740	-0.05496	-0.02781	-0.54858	-1.50863	-2.37143	-4.47940
11	0.02972	0.04782	0.09563	0.00310	0.01642	0.31682	0.14810	-1.37555	-3.76560	-4.48360

3010P | m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

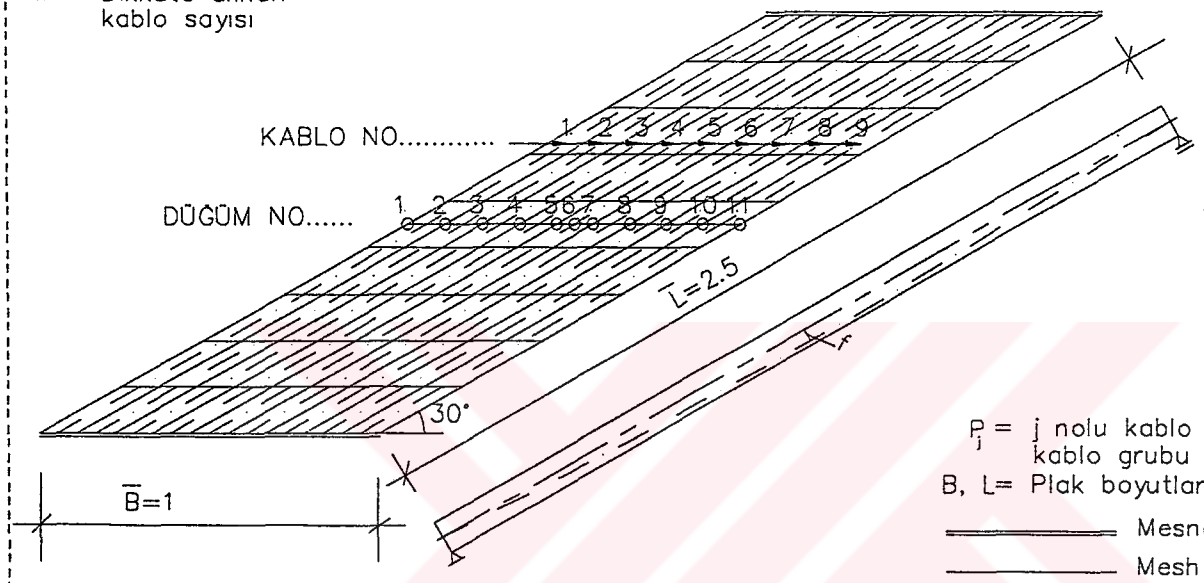
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.35186	-0.29312	-0.21326	-0.12415	-0.03422	0.05923	0.15675	0.25734	0.35988	-0.18340
2	-0.31852	-0.26475	-0.20839	-0.12755	-0.04692	0.03520	0.12205	0.21242	0.30540	-0.29107
3	-0.25938	-0.22973	-0.19170	-0.14464	-0.07368	-0.00506	0.06515	0.13961	0.21755	-0.48190
4	-0.17073	-0.17928	-0.16543	-0.14126	-0.10584	-0.04808	0.00640	0.06238	0.12267	-0.61917
5	-0.07885	-0.09864	-0.12048	-0.11952	-0.11389	-0.09941	-0.05769	-0.01689	0.02508	-0.68028
6	-0.03095	-0.06085	-0.09290	-0.11531	-0.12003	-0.11531	-0.09291	-0.06086	-0.03096	-0.72008
7	0.02508	-0.01690	-0.05769	-0.09940	-0.11389	-0.11352	-0.12048	-0.09864	-0.07884	-0.68028
8	0.12267	0.06238	0.00640	-0.04809	-0.10583	-0.14126	-0.16543	-0.17928	-0.17074	-0.61917
9	0.21755	0.13961	0.06515	-0.00506	-0.07368	-0.14464	-0.19170	-0.22973	-0.25938	-0.48190
10	0.30540	0.21242	0.12205	0.03520	-0.04692	-0.12755	-0.20839	-0.26475	-0.31852	-0.29106
11	0.35988	0.25734	0.15675	0.05923	-0.03422	-0.12415	-0.21326	-0.29312	-0.35186	-0.18340

3010P — m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.44474	-0.46411	-0.41105	-0.35929	-0.32527	-0.29612	-0.27272	-0.25470	-0.24182	-3.06980
2	-0.50941	-0.49061	-0.49891	-0.47164	-0.44193	-0.42325	-0.41065	-0.40392	-0.40279	-4.05307
3	-0.54499	-0.51914	-0.51249	-0.52517	-0.50698	-0.48654	-0.47563	-0.47134	-0.47312	-4.51538
4	-0.54844	-0.55662	-0.53398	-0.53244	-0.54722	-0.53235	-0.51846	-0.51232	-0.51285	-4.79470
5	-0.52827	-0.54386	-0.55664	-0.53822	-0.54373	-0.56296	-0.55149	-0.54343	-0.54245	-4.91105
6	-0.53075	-0.53756	-0.55222	-0.55111	-0.54044	-0.55107	-0.55221	-0.53755	-0.53073	-4.88363
7	-0.54245	-0.54343	-0.55148	-0.56295	-0.54373	-0.53823	-0.55665	-0.54387	-0.52827	-4.91105
8	-0.51285	-0.51232	-0.51846	-0.53235	-0.54722	-0.53244	-0.53397	-0.55662	-0.54843	-4.79470
9	-0.47312	-0.47134	-0.47563	-0.48654	-0.50697	-0.52517	-0.51249	-0.51914	-0.54499	-4.51538
10	-0.40279	-0.40392	-0.41065	-0.42325	-0.44193	-0.47164	-0.49891	-0.49061	-0.50941	-4.05307
11	-0.24182	-0.25470	-0.27272	-0.29612	-0.32527	-0.35929	-0.41105	-0.46411	-0.44474	-3.06980

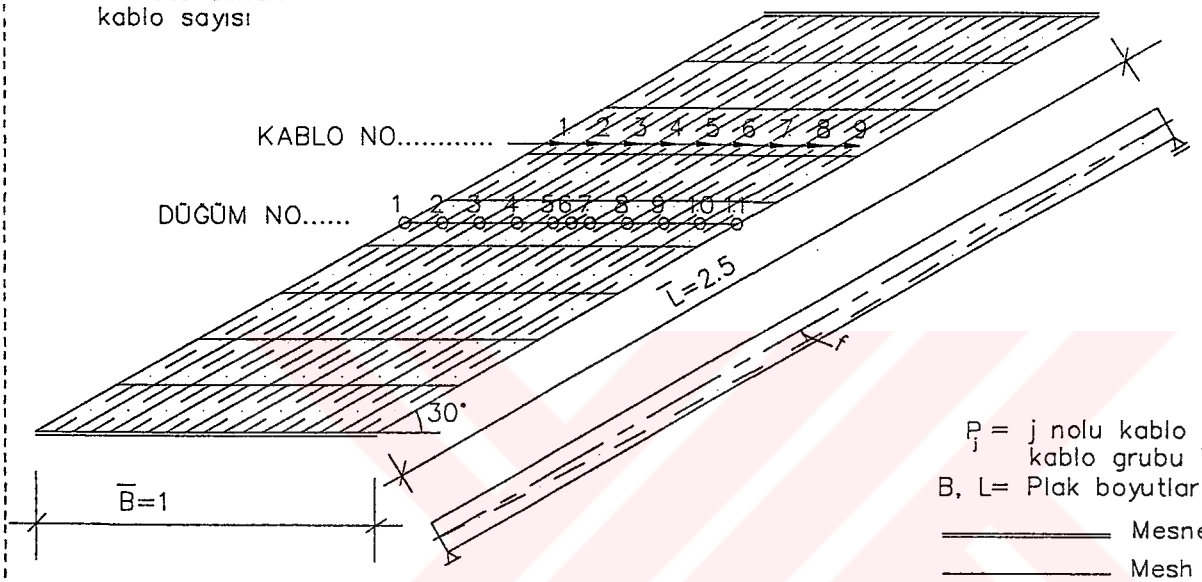
3010P

m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

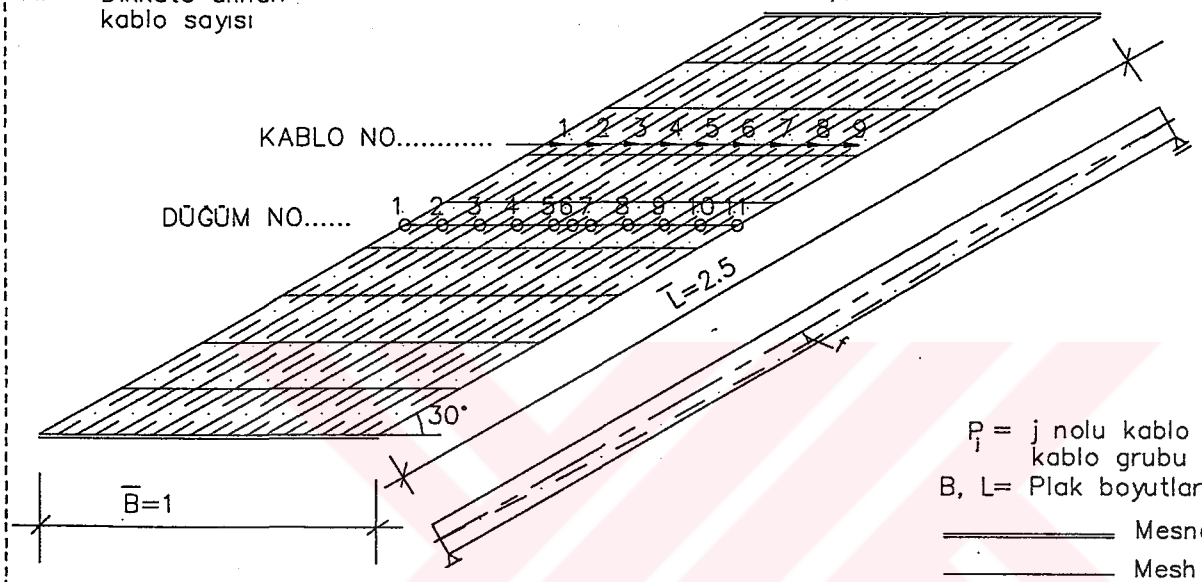
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.50166	-0.49483	-0.43997	-0.37741	-0.32634	-0.27981	-0.23770	-0.19978	-0.16599	-3.02345
2	-0.52513	-0.46686	-0.44985	-0.41570	-0.37121	-0.33436	-0.30265	-0.27515	-0.25135	-3.39225
3	-0.55420	-0.46750	-0.42374	-0.42050	-0.40572	-0.37979	-0.36036	-0.34621	-0.33597	-3.69400
4	-0.55366	-0.49365	-0.42367	-0.39807	-0.41193	-0.41474	-0.40924	-0.40879	-0.41328	-3.92703
5	-0.52236	-0.49304	-0.45341	-0.40207	-0.39656	-0.42634	-0.44363	-0.45816	-0.47760	-4.07318
6	-0.49990	-0.47491	-0.45339	-0.41569	-0.38854	-0.41567	-0.45338	-0.47490	-0.49988	-4.07625
7	-0.47759	-0.45815	-0.44363	-0.42633	-0.39656	-0.40208	-0.45342	-0.49305	-0.52237	-4.07318
8	-0.41328	-0.40879	-0.40924	-0.41474	-0.41193	-0.39807	-0.42368	-0.49365	-0.55366	-3.92703
9	-0.33597	-0.34621	-0.36036	-0.37979	-0.40572	-0.42050	-0.42374	-0.46750	-0.55420	-3.69400
10	-0.25135	-0.27515	-0.30265	-0.33437	-0.37121	-0.41570	-0.44985	-0.46686	-0.52513	-3.39225
11	-0.16599	-0.19978	-0.23770	-0.27981	-0.32634	-0.37741	-0.43997	-0.49483	-0.50166	-3.02345

3010P — s11 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

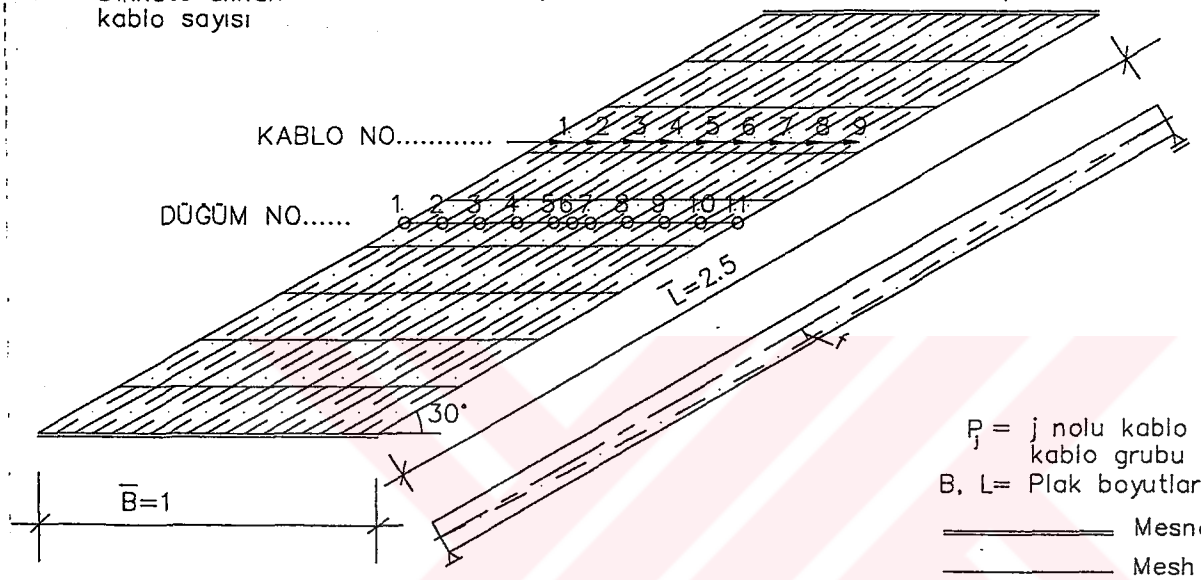
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-6.07440	-3.37275	-2.44005	-1.99480	-1.35815	-0.62475	0.06456	0.78370	1.51795	-13.49850
2	-3.55357	-3.01985	-2.60180	-2.13913	-1.61347	-1.03268	-0.44931	0.14722	0.78304	-13.47950
3	-3.28850	-2.82704	-2.39100	-1.97060	-1.52492	-1.05568	-0.61214	-0.15939	0.31279	-13.51650
4	-2.94979	-2.54407	-2.14825	-1.76290	-1.42714	-1.12198	-0.81282	-0.52167	-0.23286	-13.52150
5	-1.16313	-1.22001	-1.32159	-1.39118	-1.55205	-1.73185	-1.72033	-1.67932	-1.68446	-13.46400
6	-1.71596	-1.66591	-1.49449	-1.25841	-1.15550	-1.26061	-1.49835	-1.67098	-1.72197	-13.44225
7	-1.68765	-1.68199	-1.72244	-1.73298	-1.55213	-1.39028	-1.31958	-1.21710	-1.15956	-13.46375
8	-0.23295	-0.52176	-0.81288	-1.12204	-1.42712	-1.76280	-2.14825	-2.54416	-2.94990	-13.52150
9	0.31273	-0.15942	-0.61223	-1.05580	-1.52498	-1.97055	-2.39095	-2.82700	-3.28845	-13.51675
10	0.78298	0.14720	-0.44931	-1.03263	-1.61346	-2.13910	-2.60180	-3.01985	-3.55355	-13.47950
11	1.51795	0.78369	0.06454	-0.62477	-1.35815	-1.99480	-2.44005	-3.37275	-6.07440	-13.49850

3010P — s22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P

$S_{zz}^{i} = \sum_{j=1}^{n} s_{zz}^{ij} P_j/B$

s_{zz}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-13.87000	-1.82820	1.52488	1.04683	0.91855	1.43785	1.79261	2.09545	2.32990	-4.55230
2	-0.08676	-0.83020	-0.80825	-0.77240	-0.76246	-0.56866	-0.37071	-0.20955	-0.05855	-4.46770
3	-0.45026	-1.09378	-1.25988	-1.01204	-0.66181	-0.36698	-0.16653	0.06226	0.25971	-4.68973
4	-0.89409	-0.76812	-0.84311	-0.56508	-0.42794	-0.44690	-0.28448	-0.20688	-0.09106	-4.52755
5	5.24078	4.35179	2.72923	0.71496	-1.12326	-2.77732	-3.83982	-4.45632	-5.13869	-4.29855
6	-2.13370	-1.53123	-0.21385	1.01836	1.38123	1.00514	-0.23785	-1.56305	-2.17228	-4.44743
7	-5.15805	-4.47248	-3.85214	-2.78400	-1.12389	0.72083	2.74179	4.36934	5.26235	-4.29608
8	-0.09206	-0.20776	-0.28511	-0.44716	-0.42763	-0.56455	-0.84262	-0.76767	-0.89374	-4.52837
9	0.25938	0.06216	-0.16667	-0.36740	-0.66179	-1.01166	-1.25977	-1.09409	-0.45071	-4.69075
10	-0.05860	-0.20971	-0.37086	-0.56880	-0.76252	-0.77235	-0.80811	-0.83035	-0.08636	-4.46765
11	2.32988	2.09537	1.79252	1.43770	0.91850	1.04688	1.52491	-1.82820	-13.87005	-4.55265

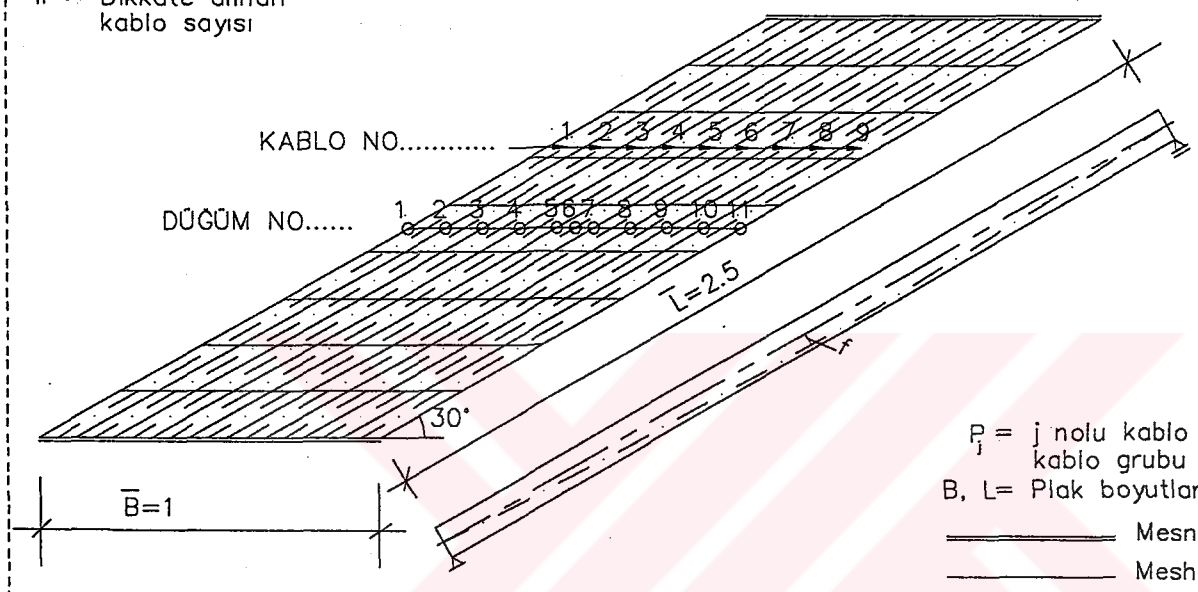
3010P

s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.4$	Paralel kablo	N3010P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

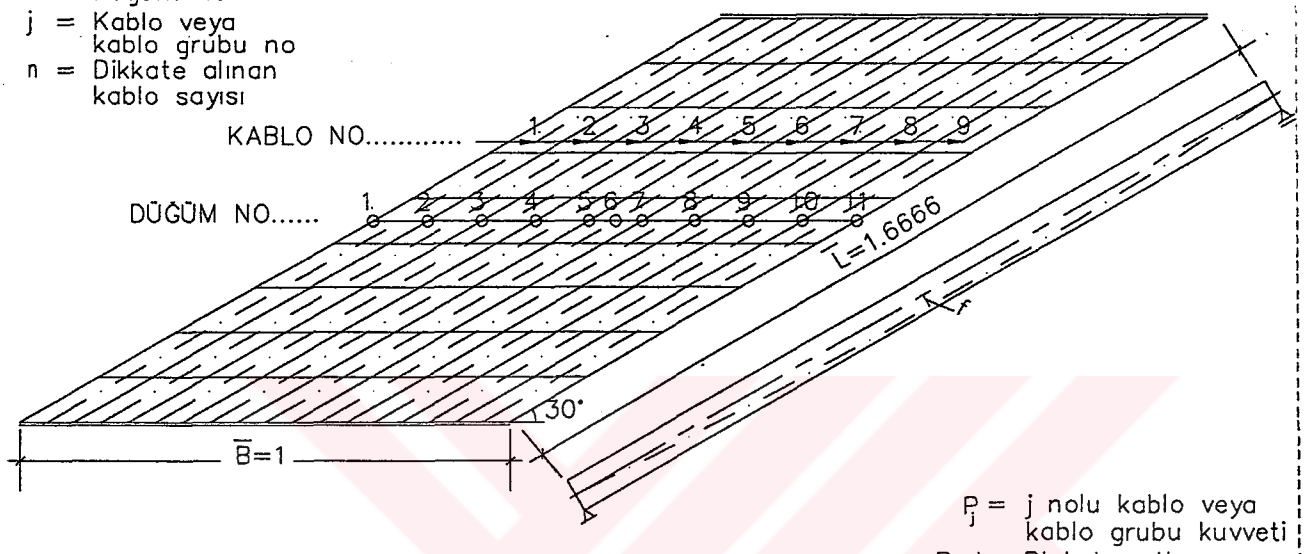
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.09310	-2.63600	-2.70485	-1.84550	-1.23467	-0.75260	-0.14469	0.46214	0.98542	-7.77765
2	-2.67460	-2.30570	-1.81923	-1.26199	-0.75849	-0.36932	0.03533	0.46602	0.87380	-7.81415
3	-1.91073	-1.65220	-1.37655	-1.09544	-0.82537	-0.58379	-0.34684	-0.11114	0.14513	-7.75695
4	-1.11130	-1.15561	-1.10584	-1.06248	-0.94451	-0.77768	-0.65442	-0.53453	-0.41530	-7.76157
5	-2.24856	-2.03012	-1.67783	-1.25454	-0.78278	-0.31342	-0.03696	0.14937	0.34853	-7.84633
6	-0.47398	-0.59538	-0.91882	-1.25736	-1.37080	-1.25440	-0.91349	-0.58838	-0.46565	-7.83830
7	0.35329	0.15333	-0.03391	-0.31179	-0.78267	-1.25596	-1.68087	-2.03442	-2.25379	-7.84683
8	-0.41514	-0.53436	-0.65430	-0.77763	-0.94460	-1.06258	-1.10593	-1.15560	-1.11121	-7.76128
9	0.14519	-0.11109	-0.34675	-0.58365	-0.82532	-1.09550	-1.37667	-1.65228	-1.91075	-7.75680
10	0.87385	0.46607	0.03540	-0.36929	-0.75848	-1.26198	-1.81927	-2.30584	-2.67478	-7.81430
11	0.98543	0.46218	-0.14465	-0.75254	-1.23466	-1.84555	-2.70490	-2.63610	0.09300	-7.77775

3011P — m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.6$	Paralel kablo	N3011P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.38122	-0.31272	-0.22656	-0.14052	-0.04560	0.05478	0.15414	0.24862	0.33744	-0.31163
2	-0.30530	-0.27813	-0.20641	-0.11411	-0.02648	0.07108	0.17238	0.27236	0.36880	-0.04580
3	-0.17324	-0.20458	-0.18347	-0.10898	-0.01487	0.07301	0.17188	0.27506	0.37814	0.21295
4	-0.01228	-0.06990	-0.10956	-0.09377	-0.02275	0.06833	0.15454	0.25135	0.35341	0.51937
5	0.13363	0.07434	0.00877	-0.03372	-0.02929	0.01961	0.09852	0.18074	0.27350	0.72609
6	0.20136	0.12447	0.05470	-0.01145	-0.04305	-0.01146	0.05457	0.12427	0.20110	0.69452
7	0.27378	0.18094	0.09866	0.01966	-0.02932	-0.03375	0.00868	0.07415	0.13338	0.72619
8	0.35362	0.25151	0.15464	0.06838	-0.02277	-0.09385	-0.10961	-0.07001	-0.01248	0.51944
9	0.37824	0.27515	0.17195	0.07304	-0.01486	-0.10904	-0.18356	-0.20462	-0.17332	0.21296
10	0.36876	0.27234	0.17238	0.07110	-0.02645	-0.11407	-0.20640	-0.27812	-0.30521	-0.04568
11	0.33756	0.24871	0.15420	0.05481	-0.04562	-0.14059	-0.22668	-0.31296	-0.38143	-0.31198

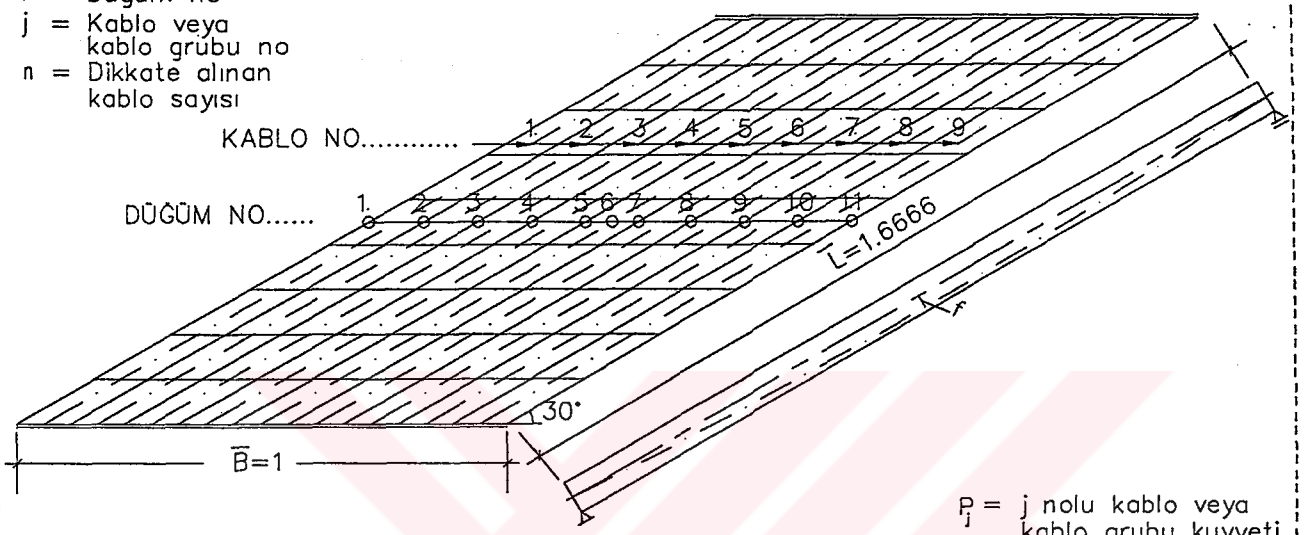
3011P

m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.6$	Paralel kablo	N3011P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.50629	-0.48919	-0.37178	-0.28427	-0.21969	-0.16535	-0.12432	-0.09532	-0.07657	-2.33280
2	-0.61496	-0.55989	-0.52325	-0.43466	-0.36196	-0.30579	-0.25996	-0.22502	-0.20086	-3.48633
3	-0.65671	-0.61505	-0.58092	-0.55504	-0.48214	-0.42422	-0.38125	-0.35035	-0.33121	-4.37688
4	-0.64860	-0.66549	-0.63671	-0.61782	-0.60305	-0.54369	-0.50405	-0.47818	-0.46551	-5.16310
5	-0.58695	-0.61082	-0.65006	-0.64103	-0.64422	-0.65226	-0.61679	-0.60272	-0.60415	-5.60900
6	-0.59301	-0.60170	-0.63280	-0.65636	-0.65656	-0.65627	-0.63273	-0.60167	-0.59301	-5.62410
7	-0.60412	-0.60272	-0.61682	-0.65233	-0.64427	-0.64096	-0.64995	-0.61076	-0.58693	-5.60885
8	-0.46538	-0.47809	-0.50400	-0.54367	-0.60309	-0.61783	-0.63659	-0.66534	-0.64850	-5.16245
9	-0.33109	-0.35026	-0.38119	-0.42417	-0.48212	-0.55507	-0.58093	-0.61492	-0.65655	-4.37630
10	-0.20080	-0.22496	-0.25990	-0.30574	-0.36192	-0.43462	-0.52325	-0.55985	-0.61476	-3.48580
11	-0.07652	-0.09531	-0.12435	-0.16544	-0.21983	-0.28449	-0.37207	-0.48960	-0.50675	-2.33435

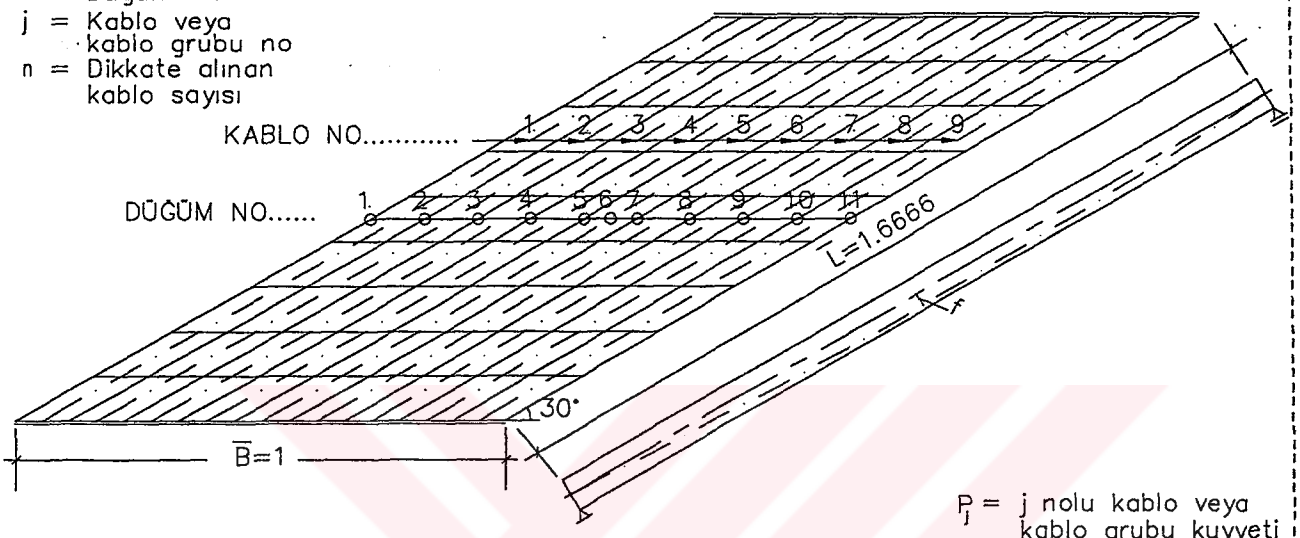
3011P

m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\overline{L}}{L}$

$\frac{\overline{B}}{\overline{L}} = 0.6$	Paralel kablo	N3011P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

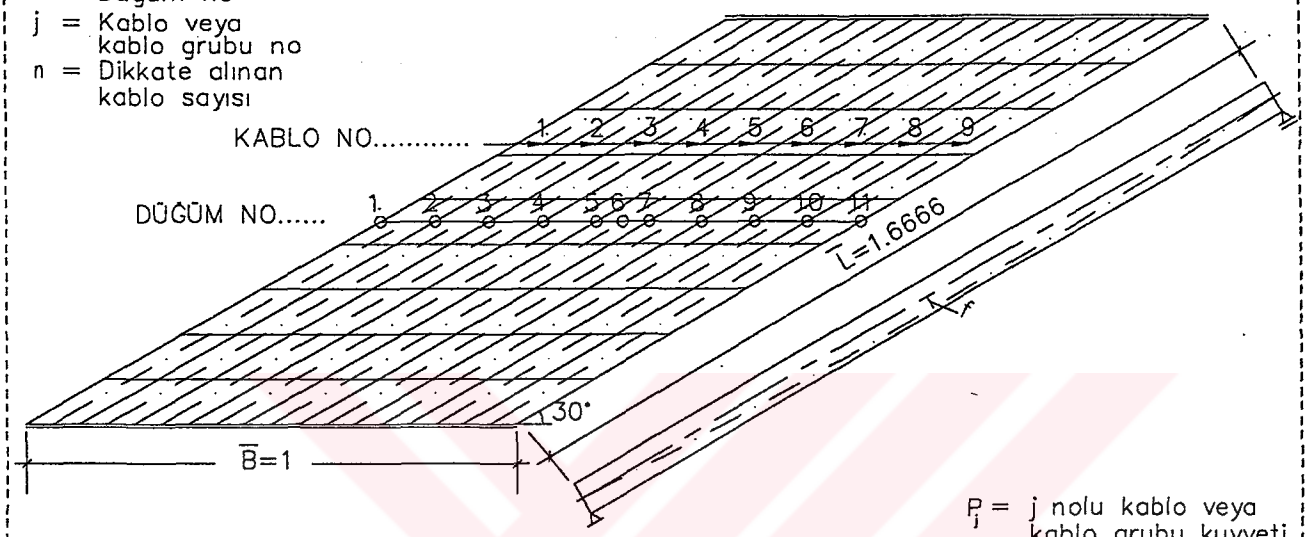
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.56010	-0.52809	-0.41879	-0.31531	-0.23164	-0.15693	-0.09342	-0.04094	0.00139	-2.34385
2	-0.60671	-0.47592	-0.42622	-0.34117	-0.25427	-0.18182	-0.11570	-0.05692	-0.00625	-2.46498
3	-0.66210	-0.47208	-0.36504	-0.33807	-0.27992	-0.21604	-0.16358	-0.11636	-0.07451	-2.68770
4	-0.63204	-0.50881	-0.35580	-0.28578	-0.29175	-0.26789	-0.24211	-0.22407	-0.21036	-3.01860
5	-0.52770	-0.46022	-0.38700	-0.28286	-0.26168	-0.30604	-0.32080	-0.34313	-0.37307	-3.26248
6	-0.45185	-0.40035	-0.36200	-0.30139	-0.25496	-0.30139	-0.36201	-0.40039	-0.45189	-3.28623
7	-0.37299	-0.34308	-0.32075	-0.30602	-0.26166	-0.28282	-0.38698	-0.46022	-0.52772	-3.26223
8	-0.21020	-0.22394	-0.24200	-0.26780	-0.29168	-0.28573	-0.35572	-0.50874	-0.63199	-3.01778
9	-0.07435	-0.11622	-0.16345	-0.21592	-0.27981	-0.33799	-0.36495	-0.47196	-0.66199	-2.68663
10	-0.00606	-0.05675	-0.11556	-0.18170	-0.25417	-0.34109	-0.42618	-0.47589	-0.60666	-2.46405
11	0.00149	-0.04086	-0.09336	-0.15690	-0.23163	-0.31534	-0.41886	-0.52823	-0.56032	-2.34400

3011P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}} = 0.6$	Paralel kablo	N3011P

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-6.45455	-4.24780	-2.71040	-1.84400	-0.90084	0.17220	0.87002	0.91653	0.69803	-13.50100
2	-4.48818	-3.62117	-2.82843	-2.12180	-1.31347	-0.41526	0.29083	0.53678	0.46100	-13.50000
3	-3.60968	-3.05770	-2.51713	-2.00103	-1.45937	-0.85800	-0.29999	0.06286	0.17293	-13.56700
4	-2.83222	-2.40403	-2.04917	-1.71063	-1.43802	-1.17286	-0.86966	-0.60179	-0.41404	-13.49250
5	-1.96228	-1.75976	-1.56690	-1.37570	-1.30818	-1.39595	-1.42672	-1.37074	-1.25786	-13.42375
6	-1.72546	-1.59847	-1.44333	-1.32136	-1.28275	-1.32190	-1.44419	-1.59946	-1.72664	-13.46350
7	-1.25690	-1.37000	-1.42602	-1.39502	-1.30728	-1.37553	-1.56765	-1.76128	-1.96415	-13.42375
8	-0.41303	-0.60079	-0.86871	-1.17180	-1.43664	-1.70978	-2.04973	-2.40603	-2.83550	-13.49200
9	0.17355	0.06392	-0.29875	-0.85683	-1.45803	-2.00008	-2.51748	-3.05965	-3.61360	-13.56700
10	0.46168	0.53787	0.29249	-0.41358	-1.31242	-2.12123	-2.82878	-3.62375	-4.49353	-13.50150
11	0.69916	0.91791	0.87208	0.17443	-0.89994	-1.84370	-2.71085	-4.25125	-6.46170	-13.50400

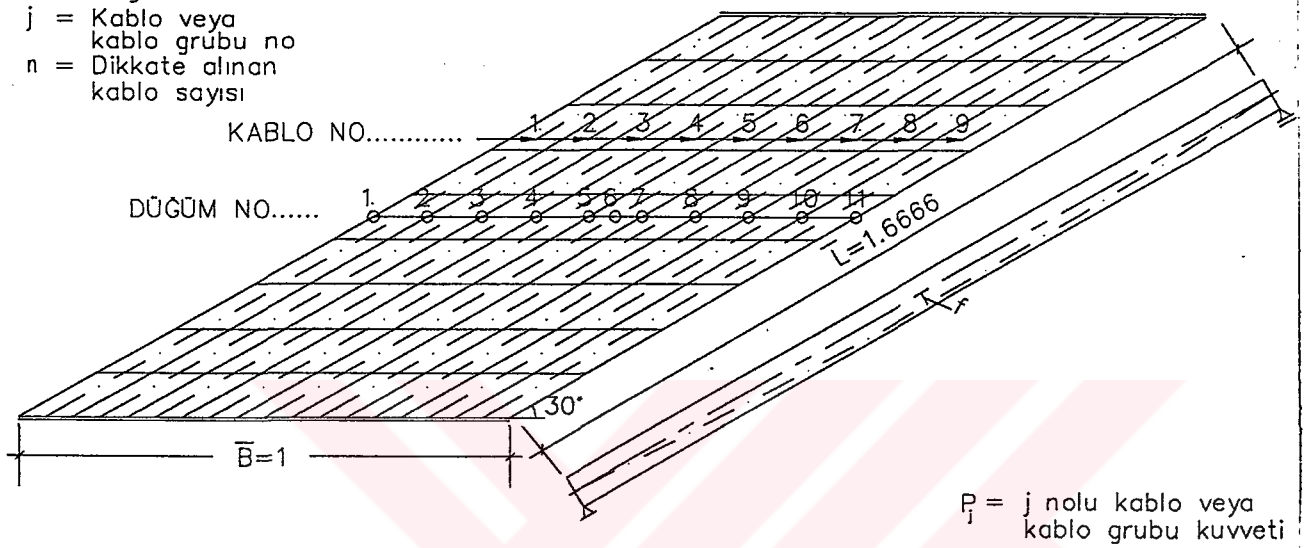
3011P

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}} = 0.6$	Paralel kablo	N3011P

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-10.03516	-3.09992	0.77067	0.76000	0.90211	1.76189	1.65824	1.26813	1.16790	-4.84605
2	-0.75765	-0.84383	-0.80459	-0.99021	-0.90994	-0.47309	-0.21555	0.02265	0.29413	-4.67800
3	-0.38838	-0.75518	-0.86454	-0.82004	-0.88473	-0.76921	-0.40259	-0.11804	0.22332	-4.77923
4	-0.53223	-0.23637	-0.28448	-0.22435	-0.45261	-0.75896	-0.69426	-0.60006	-0.55784	-4.34108
5	0.43773	0.58145	0.50493	0.30517	0.08487	-0.70964	-1.55390	-1.83604	-2.03067	-4.21613
6	-1.41662	-0.76957	-0.11475	0.06053	-0.07425	0.05653	-0.12188	-0.77925	-1.42805	-4.58730
7	-2.02226	-1.82886	-1.54770	-0.70355	0.08988	0.30562	0.49910	0.57020	0.42325	-4.21425
8	-0.54889	-0.59203	-0.68726	-0.75212	-0.44477	-0.22011	-0.28914	-0.25028	-0.55418	-4.33868
9	0.23275	-0.10903	-0.39448	-0.76224	-0.87746	-0.81544	-0.86834	-0.76940	-0.41443	-4.77813
10	0.30285	0.03100	-0.20745	-0.46628	-0.90516	-0.98709	-0.80631	-0.85645	-0.78487	-4.67965
11	1.17728	1.27663	1.66660	1.76926	0.90586	0.76245	0.77009	-3.11283	-10.06481	-4.84930

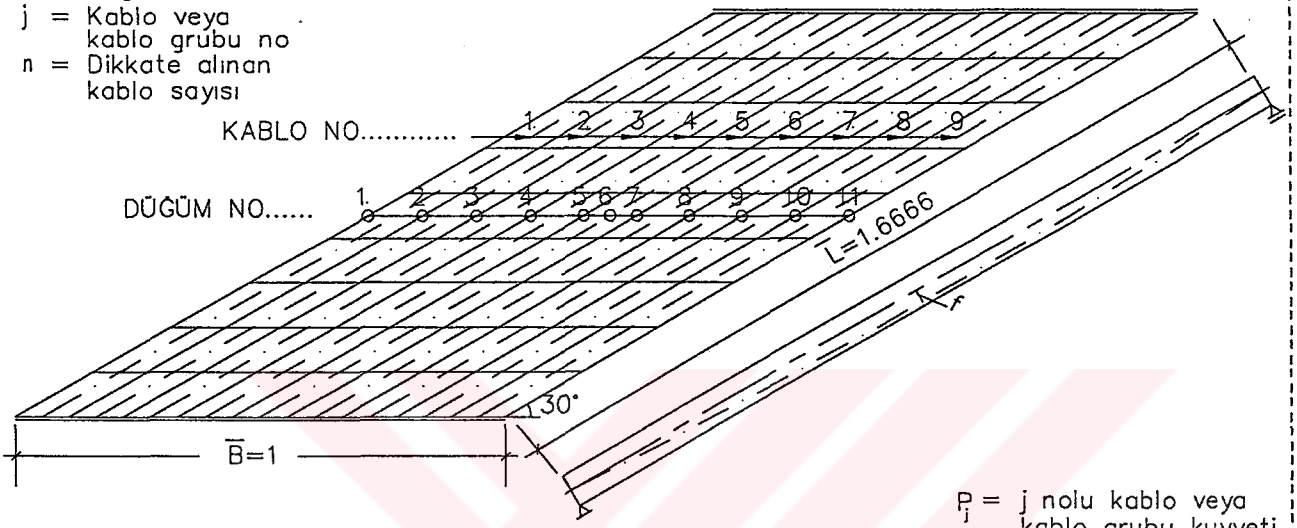
3011P

s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.6$	Paralel kablo	N3011P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.35350	-2.63820	-2.80190	-1.87290	-0.82422	0.12987	0.61867	0.61178	0.37445	-7.75590
2	-2.61293	-2.28909	-1.87035	-1.22984	-0.75299	-0.40282	0.10925	0.54181	0.79465	-7.71230
3	-2.04494	-1.76398	-1.47900	-1.15400	-0.83286	-0.64068	-0.39258	0.07244	0.54037	-7.69525
4	-1.45585	-1.49880	-1.35638	-1.20017	-0.92965	-0.68518	-0.56889	-0.29262	0.19007	-7.79753
5	-1.22391	-1.23618	-1.25578	-1.21820	-1.10196	-0.78309	-0.51109	-0.38565	-0.17623	-7.89213
6	-0.56454	-0.75661	-0.95709	-1.08581	-1.08865	-1.08522	-0.95606	-0.75523	-0.56302	-7.81223
7	-0.17738	-0.38677	-0.51204	-0.78406	-1.10271	-1.21822	-1.25490	-1.23463	-1.22173	-7.89248
8	0.18878	-0.29400	-0.57020	-0.68637	-0.93092	-1.20086	-1.35564	-1.49648	-1.45234	-7.79803
9	0.53902	0.07113	-0.39397	-0.64199	-0.83415	-1.15480	-1.47848	-1.76183	-2.04083	-7.69585
10	0.79309	0.54050	0.10798	-0.40412	-0.75385	-1.23041	-1.87020	-2.28696	-2.60830	-7.71230
11	0.37255	0.61011	0.61733	0.12892	-0.82511	-1.87415	-2.80285	-2.63715	-1.34955	-7.75985

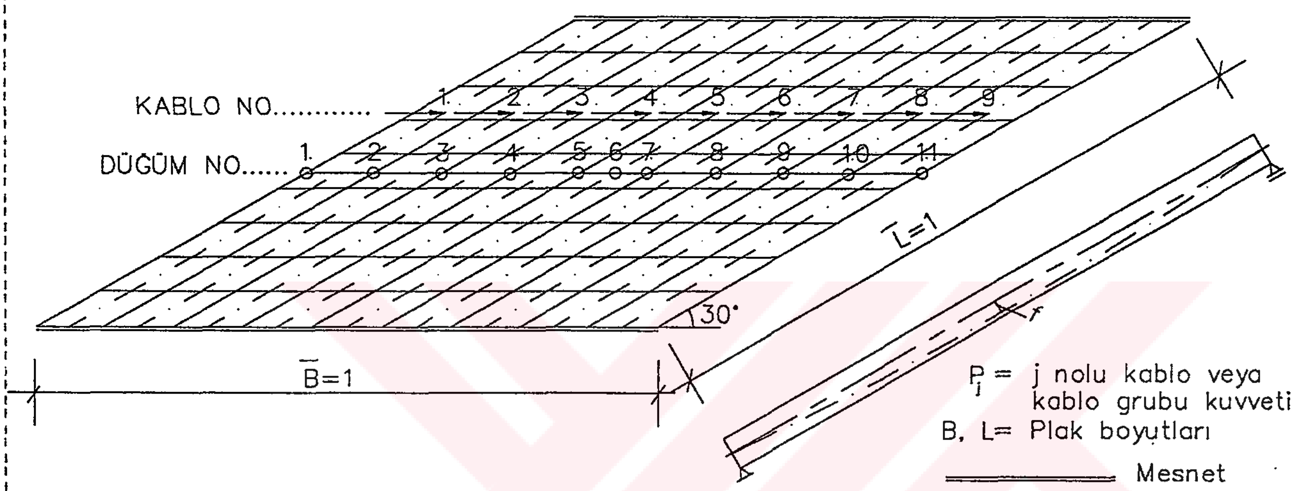
3012P

m11 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N3012P

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

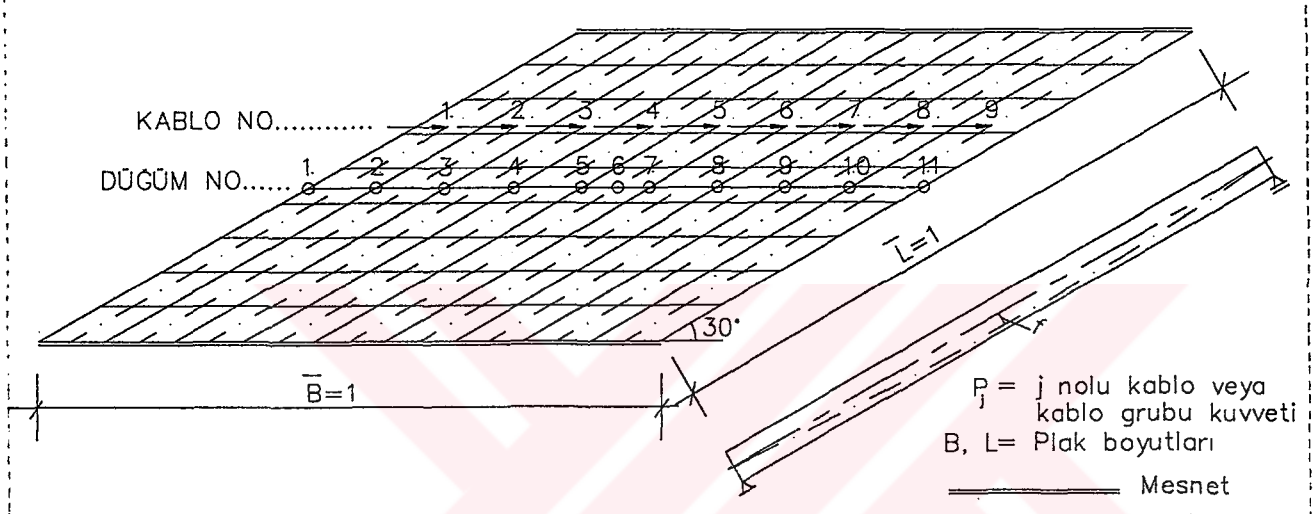
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.53876	-0.36772	-0.23853	-0.12755	-0.03154	0.02082	0.04175	0.04909	0.05379	-1.13865
2	-0.26906	-0.33336	-0.21422	-0.11098	-0.02907	0.02908	0.05514	0.06484	0.07093	-0.73669
3	0.18711	-0.10803	-0.20583	-0.10842	-0.03088	0.02579	0.06566	0.08410	0.09512	0.00462
4	0.50765	0.22282	-0.07168	-0.16684	-0.07113	0.00997	0.07849	0.12986	0.16588	0.80501
5	0.49066	0.29314	0.08691	-0.12533	-0.16785	-0.05197	0.07662	0.21214	0.33310	1.14740
6	0.41676	0.24796	0.08560	-0.08834	-0.18769	-0.08834	0.08560	0.24796	0.41676	1.13625
7	0.33309	0.21214	0.07662	-0.05197	-0.16785	-0.12533	0.08691	0.29314	0.49066	1.14740
8	0.16588	0.12986	0.07849	0.00997	-0.07113	-0.16684	-0.07168	0.22282	0.50765	0.80501
9	0.09512	0.08410	0.06566	0.02579	-0.03088	-0.10842	-0.20584	-0.10803	0.18711	0.00462
10	0.07093	0.06484	0.05514	0.02908	-0.02907	-0.11098	-0.21421	-0.33336	-0.26906	-0.73669
11	0.05379	0.04909	0.04175	0.02082	-0.03154	-0.12755	-0.23853	-0.36772	-0.53876	-1.13865

3012P — m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N3012P

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

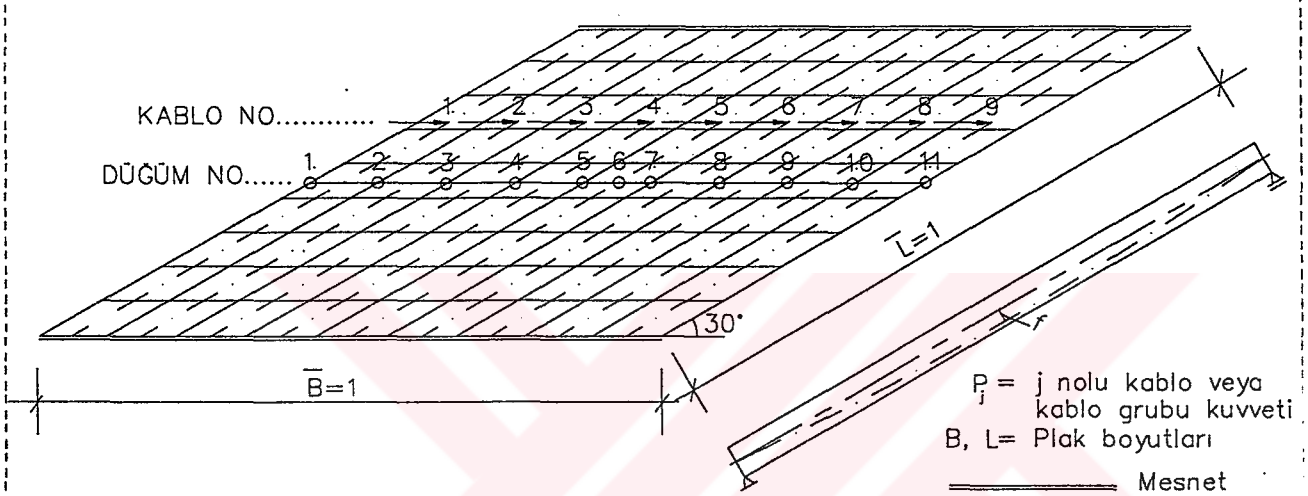
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.77866	-0.62212	-0.36853	-0.21391	-0.11319	-0.05922	-0.03369	-0.02152	-0.01518	-2.22600
2	-0.97661	-0.83741	-0.67375	-0.46335	-0.31025	-0.19460	-0.11602	-0.06710	-0.03807	-3.67715
3	-1.01455	-0.94720	-0.83704	-0.68202	-0.48093	-0.33114	-0.21405	-0.13277	-0.08124	-4.72093
4	-0.85383	-0.87333	-0.84917	-0.77852	-0.65240	-0.47098	-0.33801	-0.23378	-0.16377	-5.21375
5	-0.54597	-0.59719	-0.69978	-0.73670	-0.70493	-0.63129	-0.51066	-0.42832	-0.37575	-5.23058
6	-0.48956	-0.53037	-0.61224	-0.72608	-0.78721	-0.72608	-0.61224	-0.53037	-0.48956	-5.50370
7	-0.37575	-0.42832	-0.51066	-0.63129	-0.70493	-0.73670	-0.69978	-0.59719	-0.54597	-5.23058
8	-0.16377	-0.23378	-0.33801	-0.47098	-0.65240	-0.77852	-0.84917	-0.87333	-0.85383	-5.21375
9	-0.08124	-0.13277	-0.21405	-0.33114	-0.48093	-0.68202	-0.83703	-0.94720	-1.01455	-4.72093
10	-0.03807	-0.06710	-0.11602	-0.19460	-0.31025	-0.46335	-0.67375	-0.83741	-0.97661	-3.67715
11	-0.01518	-0.02152	-0.03369	-0.05922	-0.11319	-0.21391	-0.36853	-0.62212	-0.77866	-2.22600

3012P — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N3012P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

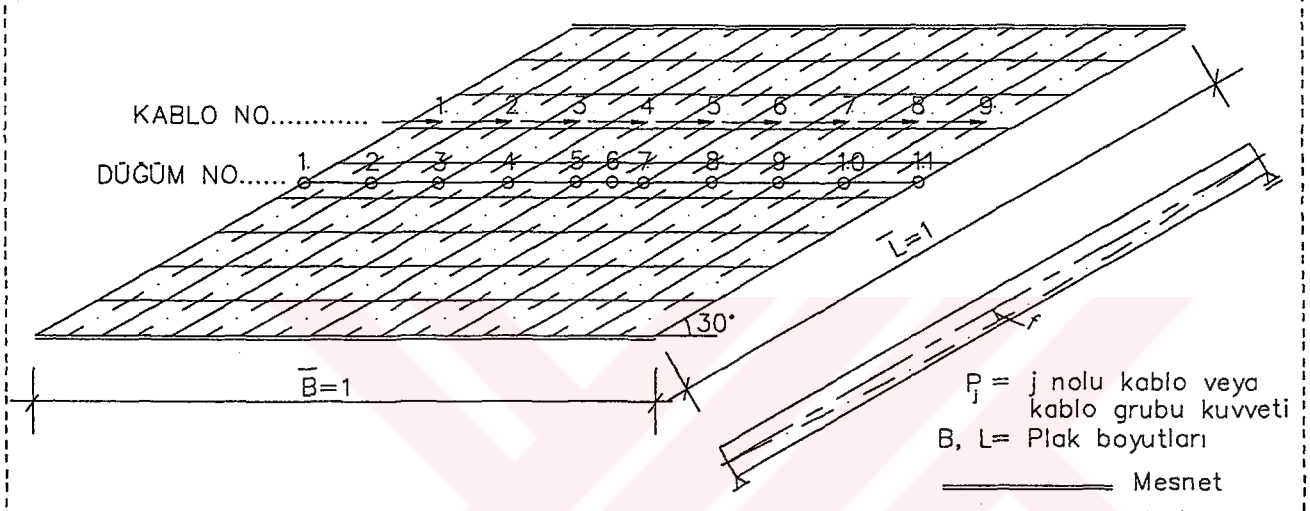
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.78765	-0.67399	-0.44006	-0.26278	-0.14385	-0.07114	-0.03216	-0.01196	-0.00065	-2.42420
2	-0.83902	-0.54238	-0.45123	-0.30184	-0.18055	-0.09198	-0.03418	-0.00164	0.01689	-2.42590
3	-0.89675	-0.49888	-0.29380	-0.27741	-0.19067	-0.11100	-0.04467	0.00230	0.03245	-2.27843
4	-0.66055	-0.46135	-0.18024	-0.07402	-0.13163	-0.09973	-0.06131	-0.01813	0.01676	-1.67020
5	-0.31505	-0.25030	-0.17090	0.00688	0.04265	-0.05749	-0.07283	-0.08125	-0.07635	-0.97466
6	-0.17178	-0.14419	-0.11306	-0.03686	0.02558	-0.03686	-0.11306	-0.14419	-0.17177	-0.90619
7	-0.07635	-0.08125	-0.07283	-0.05749	0.04265	0.00688	-0.17090	-0.25030	-0.31505	-0.97466
8	0.01676	-0.01813	-0.06131	-0.09973	-0.13163	-0.07402	-0.18024	-0.46135	-0.66055	-1.67020
9	0.03245	0.00230	-0.04467	-0.11101	-0.19067	-0.27741	-0.29380	-0.49888	-0.89675	-2.27843
10	0.01689	-0.00164	-0.03418	-0.09198	-0.18055	-0.30184	-0.45123	-0.54238	-0.83902	-2.42590
11	-0.00065	-0.01196	-0.03216	-0.07114	-0.14385	-0.26278	-0.44006	-0.67399	-0.78765	-2.42420

3012P — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N3012P

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-7.92800	-5.15025	-2.44540	-0.09049	0.94737	0.44776	-0.07356	-0.04465	0.01263	-14.32500
2	-6.21293	-4.40613	-2.55153	-0.82626	0.22982	0.26811	-0.08729	-0.16166	-0.07564	-13.82350
3	-4.47280	-3.49740	-2.44885	-1.41357	-0.63556	-0.22188	-0.20683	-0.32995	-0.25485	-13.48150
4	-3.07228	-2.66905	-2.18520	-1.65033	-1.19006	-0.85477	-0.63225	-0.59211	-0.59226	-13.43850
5	-2.18126	-2.10140	-1.92997	-1.64275	-1.38366	-1.23991	-1.04375	-0.88500	-1.01829	-13.42600
6	-1.34369	-1.35461	-1.57353	-1.64792	-1.66170	-1.64792	-1.57353	-1.35461	-1.34369	-13.50100
7	-1.01829	-0.88500	-1.04374	-1.23991	-1.38366	-1.64275	-1.92998	-2.10140	-2.18126	-13.42600
8	-0.59226	-0.59211	-0.63226	-0.85477	-1.19006	-1.65033	-2.18520	-2.66905	-3.07228	-13.43850
9	-0.25485	-0.32995	-0.20683	-0.22188	-0.63556	-1.41357	-2.44885	-3.49740	-4.47280	-13.48150
10	-0.07564	-0.16166	-0.08729	0.26811	0.22982	-0.82626	-2.55153	-4.40613	-6.21293	-13.82350
11	0.01263	-0.04465	-0.07356	0.44776	0.94737	-0.09049	-2.44540	-5.15025	-7.92800	-14.32500

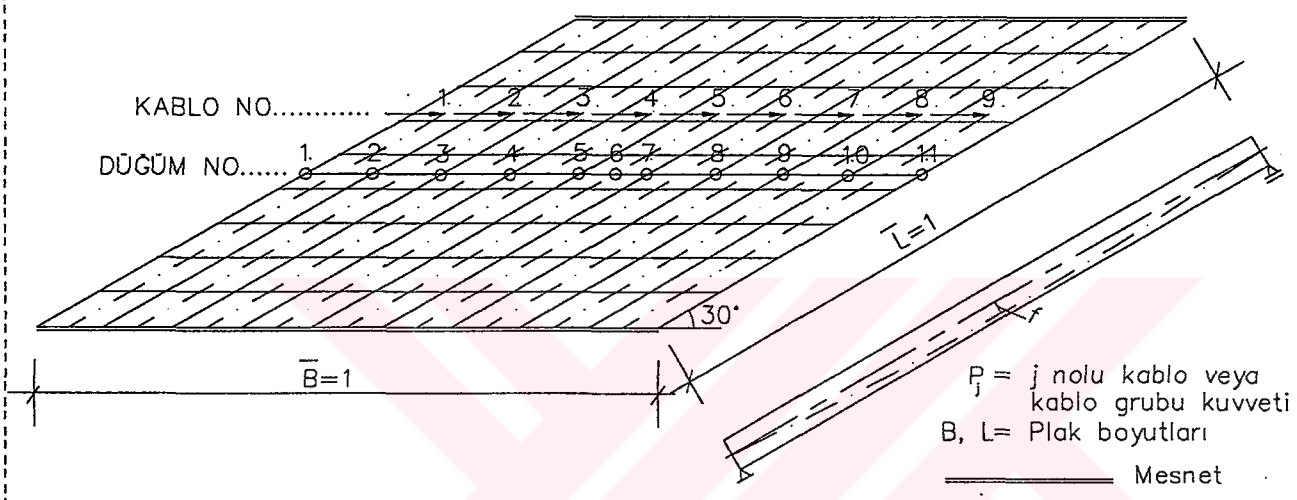
3012P

s22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Paralel kablo	N3012P

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

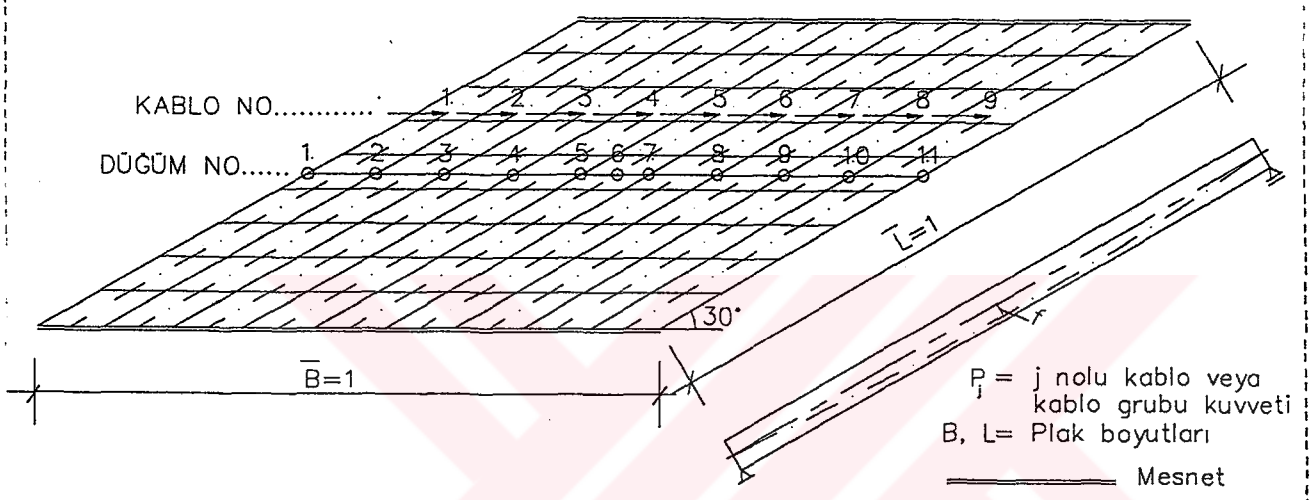
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.40175	-2.62948	-0.37985	0.76885	0.98095	0.18015	-0.52007	-0.12737	0.23892	-6.88965
2	-0.65720	-0.87268	-0.86236	-0.94538	-0.70030	-0.24830	-0.28729	-0.25570	-0.01728	-4.84665
3	-0.96557	-0.85935	-0.59468	-0.35037	-0.70060	-0.69027	-0.13410	0.04530	0.27057	-3.97903
4	-1.86545	-0.99257	-0.37554	0.01717	0.02310	-0.46936	-0.65185	-0.22128	0.45701	-4.07885
5	-2.62131	-1.78803	-0.70438	0.09962	0.58931	0.41617	0.03435	-0.16253	-0.09274	-4.22965
6	-0.38009	-0.43546	-0.51683	-0.63360	-0.83270	-0.63360	-0.51683	-0.43546	-0.38009	-4.76470
7	-0.09274	-0.16253	0.03435	0.41616	0.58931	0.09962	-0.70438	-1.78803	-2.62131	-4.22965
8	0.45701	-0.22128	-0.65185	-0.46936	0.02310	0.01717	-0.37554	-0.99257	-1.86545	-4.07885
9	0.27057	0.04530	-0.13410	-0.69027	-0.70060	-0.35037	-0.59468	-0.85935	-0.96557	-3.97903
10	-0.01728	-0.25570	-0.28728	-0.24830	-0.70030	-0.94538	-0.86236	-0.87269	-0.65720	-4.84665
11	0.23892	-0.12737	-0.52007	0.18015	0.98095	0.76885	-0.37985	-2.62948	-5.40175	-6.88965

3012P — s12 TESİR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1$	Paralel kablo	N3012P



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

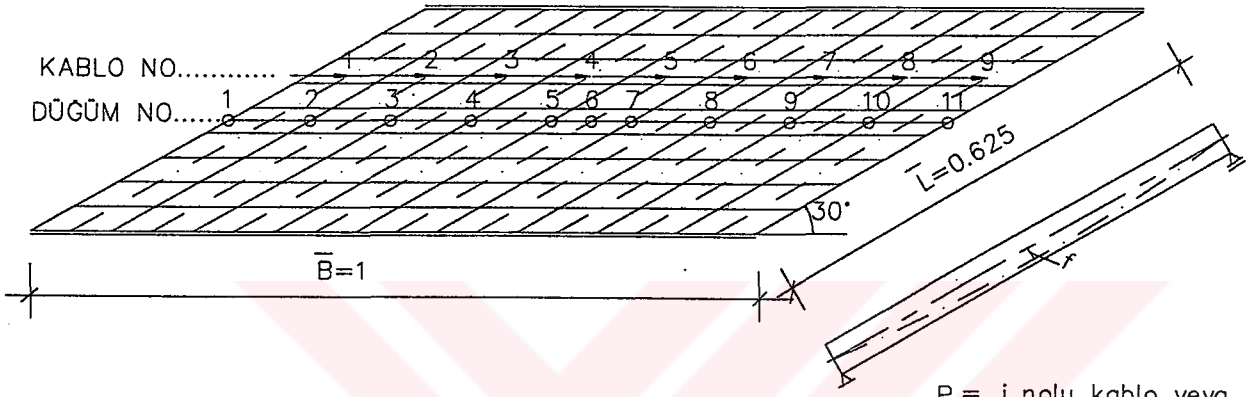
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.17670	-3.41725	-1.45200	0.73015	1.33685	0.66831	0.34468	0.05827	-0.09617	-7.00380
2	-3.32756	-2.59198	-1.90855	-1.12593	-0.10970	0.57772	0.57640	0.31165	0.09571	-7.50223
3	-1.82264	-1.75745	-1.75350	-1.71831	-1.28827	-0.39260	0.28681	0.36466	0.18012	-7.90120
4	-0.64640	-1.14470	-1.47313	-1.68995	-1.70064	-1.33261	-0.45497	0.25812	0.25723	-7.92708
5	0.61754	-0.58149	-1.24489	-1.62728	-1.83561	-1.76724	-1.39008	-0.48790	0.40791	-7.90900
6	0.34501	-0.73757	-1.31164	-1.45363	-1.45485	-1.45363	-1.31164	-0.73757	0.34501	-7.77050
7	0.40791	-0.48790	-1.39008	-1.76724	-1.83560	-1.62728	-1.24489	-0.58149	0.61754	-7.90900
8	0.25723	0.25812	-0.45497	-1.33261	-1.70064	-1.68995	-1.47313	-1.14470	-0.64640	-7.92708
9	0.18012	0.36466	0.28681	-0.39260	-1.28827	-1.71831	-1.75350	-1.75745	-1.82264	-7.90120
10	0.09571	0.31165	0.57640	0.57772	-0.10970	-1.12593	-1.90855	-2.59198	-3.32756	-7.50223
11	-0.09617	0.05827	0.34468	0.66831	1.33685	0.73015	-1.45200	-3.41725	-5.17670	-7.00380

3013P — mii TESIR SAYILARI

$$M_{ii}^{i}=\sum_{j=1}^{n} m_{ii}^{ij} P_j f_j \frac{\bar{L}}{L}$$

$\frac{\bar{B}}{\bar{L}}=1.6$	Paralel kablo	N3013P

m_{ii}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.87315	-0.36450	-0.10645	0.01552	0.04053	0.02783	0.01381	0.00589	0.00202	-1.23850
2	-0.13255	-0.38691	-0.09696	0.03234	0.05784	0.04043	0.01957	0.00817	0.00277	-0.45530
3	0.78707	-0.04108	-0.30756	-0.03665	0.06653	0.06943	0.03887	0.01728	0.00675	0.60064
4	0.56297	0.19682	-0.35533	-0.43216	-0.06626	0.06514	0.07602	0.04546	0.02413	0.11681
5	0.22338	0.15302	-0.02571	-0.42217	-0.46925	-0.13415	0.03338	0.08321	0.07821	-0.48007
6	0.13724	0.10158	-0.00943	-0.25961	-0.42733	-0.25947	-0.00947	0.10162	0.13735	-0.48753
7	0.07812	0.08318	0.03345	-0.13399	-0.46911	-0.42214	-0.02573	0.15307	0.22356	-0.47959
8	0.02411	0.04543	0.07600	0.06520	-0.06616	-0.43213	-0.35538	0.19678	0.56308	0.11693
9	0.00674	0.01727	0.03884	0.06940	0.06652	-0.03669	-0.30780	-0.04167	0.78609	0.59871
10	0.00276	0.00817	0.01955	0.04040	0.05780	0.03232	-0.09703	-0.38720	-0.13339	-0.45662
11	0.00202	0.00589	0.01381	0.02784	0.04056	0.01555	-0.10654	-0.36507	-0.87339	-1.23930

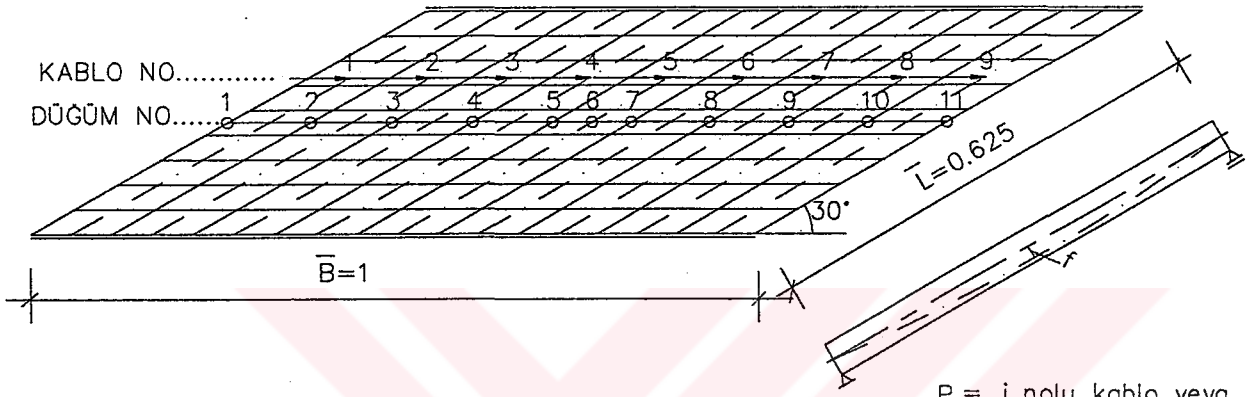
3013P

m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N3013P

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

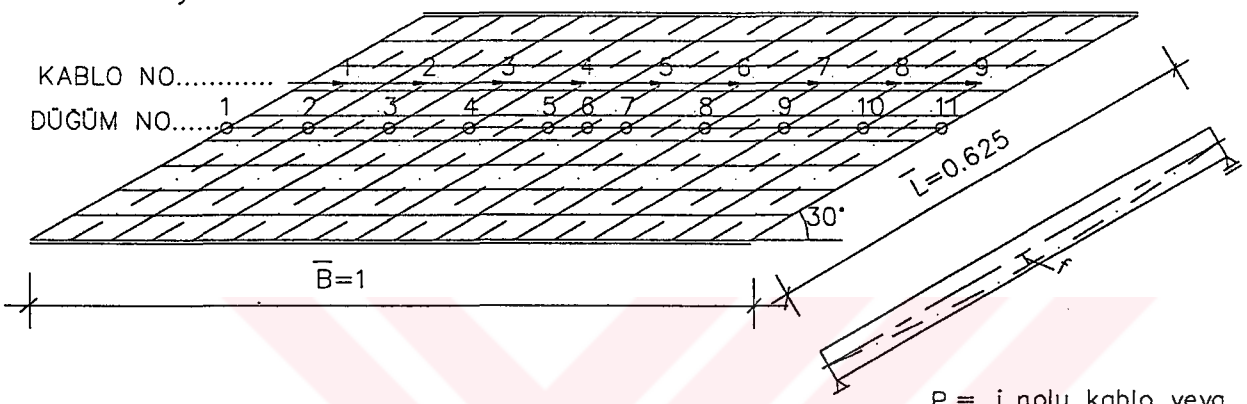
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-1.28800	-0.77376	-0.29620	-0.09222	-0.02303	-0.00821	-0.00338	-0.00109	-0.00011	-2.48600
2	-1.66120	-1.30818	-0.85731	-0.43716	-0.19360	-0.07351	-0.02591	-0.00778	-0.00051	-4.56515
3	-1.26740	-1.26443	-1.09650	-0.75404	-0.40032	-0.18612	-0.07353	-0.02554	-0.00509	-5.07295
4	-0.57140	-0.80327	-0.98934	-0.95727	-0.70156	-0.38308	-0.17873	-0.07059	-0.02157	-4.67685
5	-0.19403	-0.38855	-0.69421	-0.92483	-0.88546	-0.64995	-0.38020	-0.19140	-0.08651	-4.39513
6	-0.15382	-0.29027	-0.51077	-0.82806	-1.01478	-0.82744	-0.51070	-0.29034	-0.15395	-4.58015
7	-0.08643	-0.19130	-0.38021	-0.65021	-0.88583	-0.92456	-0.69378	-0.38859	-0.19414	-4.39508
8	-0.02157	-0.07056	-0.17866	-0.38310	-0.70194	-0.95766	-0.98915	-0.80317	-0.57195	-4.67778
9	-0.00508	-0.02553	-0.07349	-0.18603	-0.40026	-0.75442	-1.09696	-1.26437	-1.26766	-5.07380
10	-0.00051	-0.00778	-0.02590	-0.07347	-0.19351	-0.43698	-0.85732	-1.30787	-1.66003	-4.56340
11	-0.00011	-0.00110	-0.00339	-0.00823	-0.02305	-0.09226	-0.29624	-0.77436	-1.28840	-2.48715

3013P — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N3013P

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

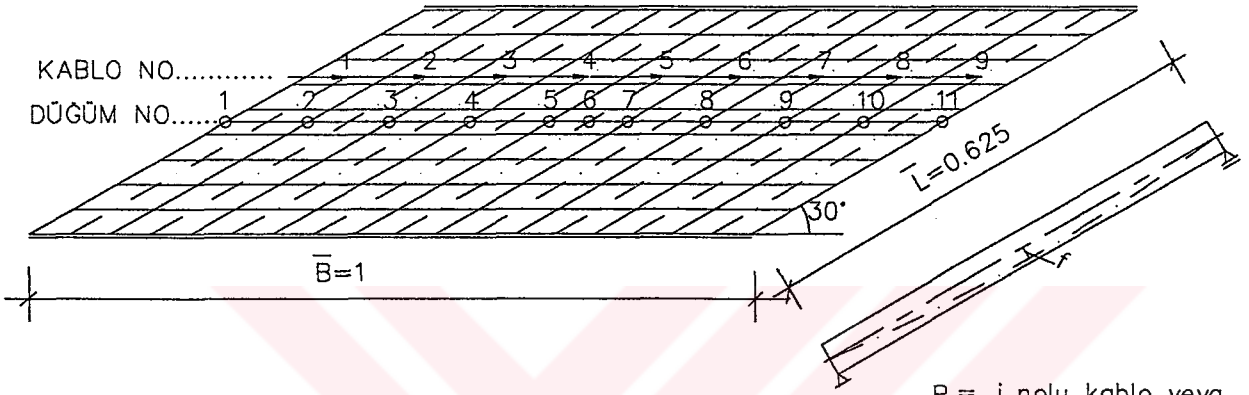
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-1.12885	-0.80939	-0.36218	-0.13018	-0.03882	-0.01038	-0.00270	-0.00048	0.00027	-2.48270
2	-1.21055	-0.57960	-0.44308	-0.20378	-0.06143	-0.00775	0.00254	0.00254	0.00169	-2.49943
3	-0.92003	-0.30374	-0.06261	-0.18723	-0.10452	-0.03428	-0.00254	0.00283	0.00263	-1.60950
4	-0.22251	-0.18995	0.11987	0.14263	-0.11780	-0.09071	-0.03216	-0.00299	0.00410	-0.38952
5	-0.00353	-0.07391	-0.10957	0.13757	0.16972	-0.05808	-0.05183	-0.01275	0.01112	0.00873
6	0.01322	-0.02675	-0.06594	-0.01852	0.04306	-0.01850	-0.06615	-0.02698	0.01301	-0.15355
7	0.01125	-0.01258	-0.05169	-0.05811	0.16954	0.13754	-0.10962	-0.07424	-0.00393	0.00817
8	0.00414	-0.00290	-0.03200	-0.09055	-0.11785	0.14248	0.11980	-0.19035	-0.22350	-0.39071
9	0.00264	0.00287	-0.00244	-0.03410	-0.10431	-0.18727	-0.06284	-0.30395	-0.92069	-1.61008
10	0.00169	0.00255	0.00257	-0.00765	-0.06122	-0.20345	-0.44280	-0.57925	-1.20984	-2.49740
11	0.00027	-0.00047	-0.00267	-0.01032	-0.03869	-0.12994	-0.36182	-0.80917	-1.12925	-2.48210

3013P — sil TESIR SAYILARI

$S_{ii}^{i} = \sum_{j=1}^{n} s_{ii}^{ij} P_j/B$

$\frac{B}{L} = 1.6$	Paralel kablo	N3013P

s_{ii}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

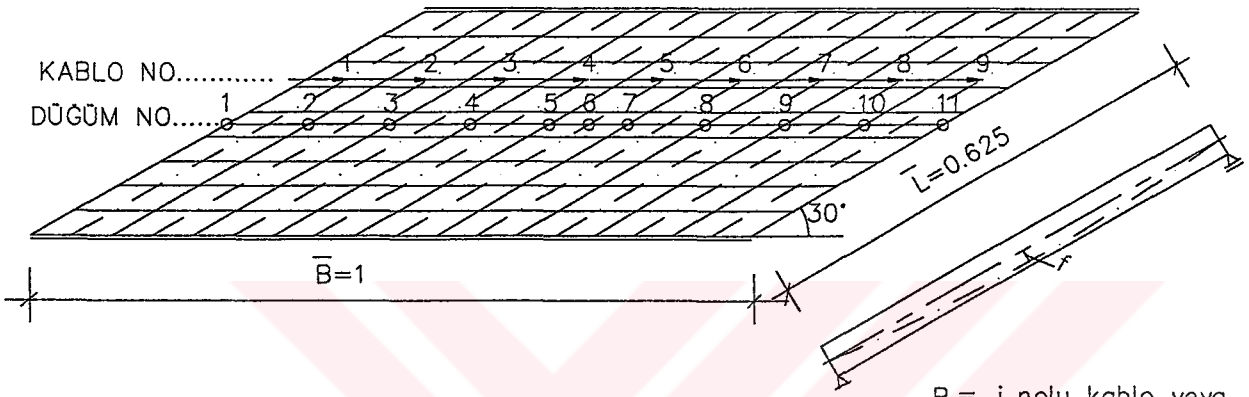
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-10.10655	-4.32540	0.08774	0.86095	0.16568	0.06178	-0.01588	0.03811	0.04853	-13.18500
2	-7.58115	-4.19555	-1.21867	-0.09075	-0.18072	-0.14143	-0.04043	0.02225	0.06467	-13.36200
3	-4.50670	-3.63040	-2.50683	-1.43711	-0.81441	-0.39080	-0.13063	0.01987	0.06620	-13.33100
4	-2.43033	-2.59128	-2.64655	-2.27563	-1.71950	-1.08137	-0.52154	-0.15492	-0.02577	-13.44675
5	-1.22119	-1.58380	-2.19853	-2.51225	-2.30360	-1.74410	-1.03981	-0.53962	-0.29760	-13.44025
6	-0.63426	-0.94340	-1.57440	-2.30193	-2.57448	-2.29990	-1.57164	-0.94135	-0.63534	-13.47650
7	-0.29838	-0.54040	-1.04131	-1.74470	-2.30183	-2.50973	-2.19658	-1.58278	-1.22485	-13.44075
8	-0.02691	-0.15403	-0.52038	-1.07986	-1.71615	-2.27243	-2.64570	-2.59288	-2.43757	-13.44600
9	0.06536	0.02127	-0.12761	-0.38675	-0.80987	-1.43354	-2.50630	-3.63360	-4.51700	-13.32800
10	0.06433	0.02341	-0.03707	-0.13548	-0.17574	-0.08739	-1.21701	-4.19955	-7.59648	-13.36125
11	0.04846	0.03917	-0.01267	0.06830	0.17042	0.86404	0.09077	-4.33015	-10.12770	-13.18900

3013P — s22 TESIR SAYILARI

$S_{22}^{i}=\sum_{j=1}^{n} s_{22}^{ij} P_j/B$

$\frac{\bar{B}}{\bar{L}}=1.6$	Paralel kablo	N3013P

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

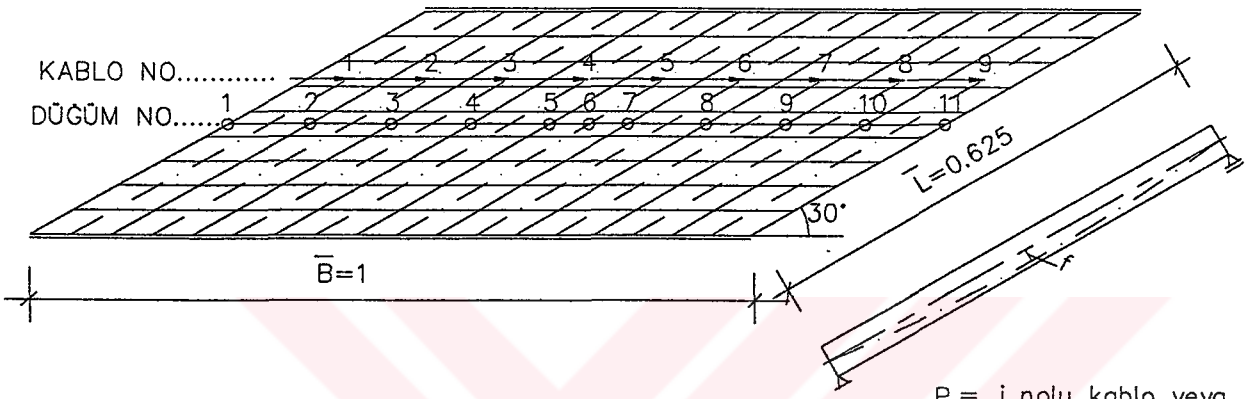
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-6.97770	-1.88960	1.21131	1.40300	1.72020	1.16810	0.03710	0.24839	0.24580	-2.83321
2	-2.27318	-1.74093	-1.23248	-0.72206	0.45300	0.87597	0.21415	0.09590	0.34098	-3.98873
3	-2.38698	-1.69424	-1.27273	-1.10390	-0.32168	1.27478	1.17609	0.51121	0.32853	-3.48890
4	-2.20865	-1.99766	-0.86175	-0.12802	-0.60187	-0.38287	0.84245	1.01980	0.12830	-4.19028
5	-0.87055	-1.92898	-1.35709	0.10320	0.52905	-0.51735	-0.56924	0.48514	-0.42391	-4.54978
6	-0.41721	-0.73447	-1.32877	-0.20737	0.60568	-0.20031	-1.31790	-0.72729	-0.42186	-4.74948
7	-0.43026	0.48250	-0.57319	-0.51605	0.54223	0.11577	-1.35008	-1.92753	-0.89343	-4.55003
8	0.12078	1.02442	0.85196	-0.36870	-0.57696	-0.10757	-0.85991	-2.01170	-2.25689	-4.18465
9	0.32351	0.51839	1.19354	1.30273	-0.28715	-1.07696	-1.27018	-1.71983	-2.45778	-3.47388
10	0.33891	0.10273	0.23277	0.91158	0.49363	-0.69117	-1.22602	-1.77187	-2.36440	-3.97378
11	0.24530	0.25498	0.05535	1.20595	1.76205	1.43515	1.22087	-1.92500	-7.08620	-2.83139

3013P — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

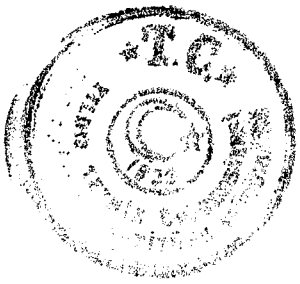
$\frac{\bar{B}}{\bar{L}} = 1.6$	Paralel kablo	N3013P

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

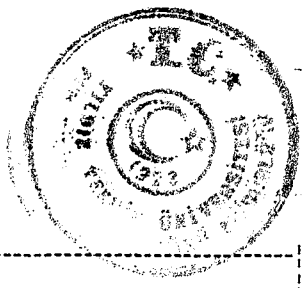


P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-6.97685	-2.25290	1.24422	0.77970	-0.80465	-0.43855	-0.06180	-0.11118	-0.09390	-8.71575
2	-3.24122	-2.79815	-1.92440	-0.20649	0.28417	-0.09166	0.01960	-0.05275	-0.11061	-8.12155
3	-0.89499	-1.87230	-2.30070	-2.02525	-0.71033	-0.11371	-0.21486	-0.11436	-0.09271	-8.33923
4	0.85201	-1.08355	-2.15385	-2.57793	-2.03065	-0.60789	-0.02046	-0.16574	0.01660	-7.77153
5	0.88810	0.17903	-1.45258	-2.40635	-2.72160	-2.05953	-0.55948	0.08225	0.22954	-7.82058
6	0.57707	0.23678	-1.02436	-2.32813	-2.68035	-2.32925	-1.02626	0.23590	0.57822	-7.76038
7	0.22987	0.08255	-0.55858	-2.05998	-2.72423	-2.40860	-1.45360	0.17880	0.89294	-7.82080
8	0.01767	-0.16680	-0.02215	-0.61024	-2.03545	-2.58228	-2.15425	-1.08056	0.86103	-7.77298
9	-0.09189	-0.11547	-0.21790	-0.11864	-0.71648	-2.03080	-2.30230	-1.86785	-0.88149	-8.34280
10	-0.11015	-0.05384	0.01676	-0.09750	0.27736	-0.21209	-1.92713	-2.79333	-3.22300	-8.12288
11	-0.09361	-0.11223	-0.06497	-0.44500	-0.81265	0.77299	1.24175	-2.24915	-6.96350	-8.72615



5.2 GENİŞ AÇILI KÖŞELERDE SIKLAŞTIRILMIŞ (YELPAZE) KABLO DÜZENİ İÇİN TESİR SAYILARI



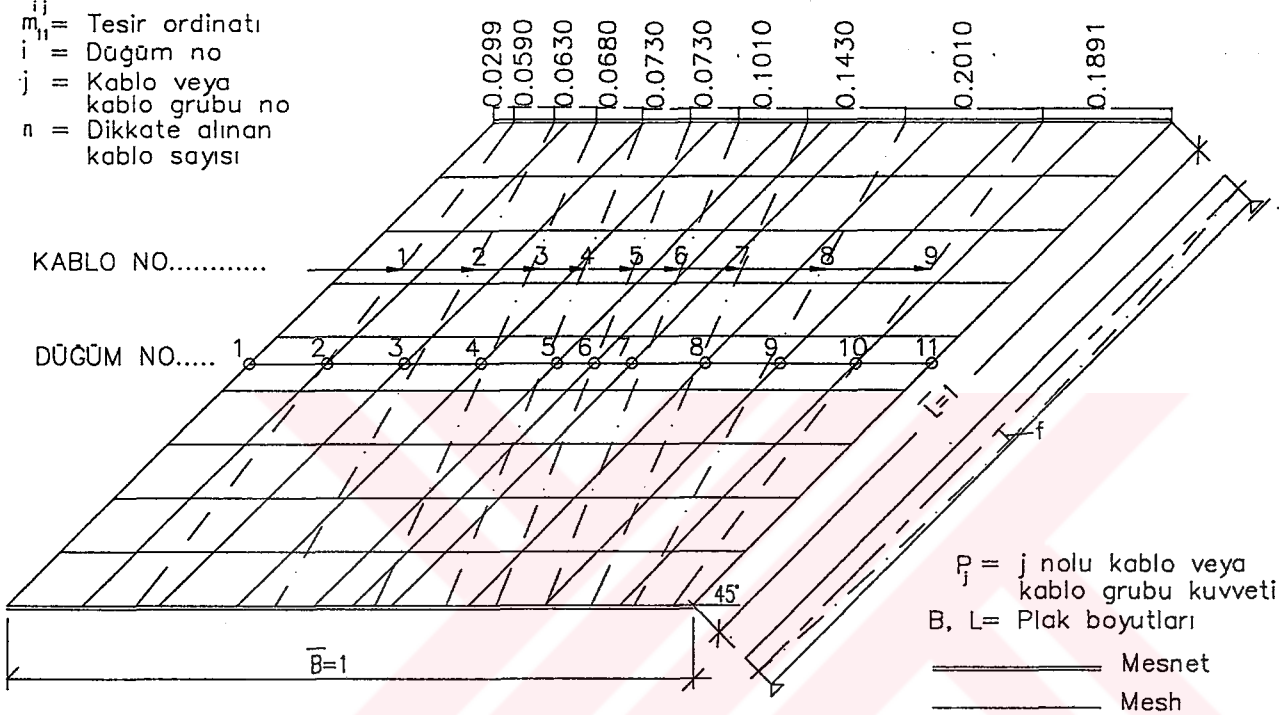
N451F

m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\overline{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\overline{B}}{\overline{L}}=1$ | Yelpaze kablo | N451F



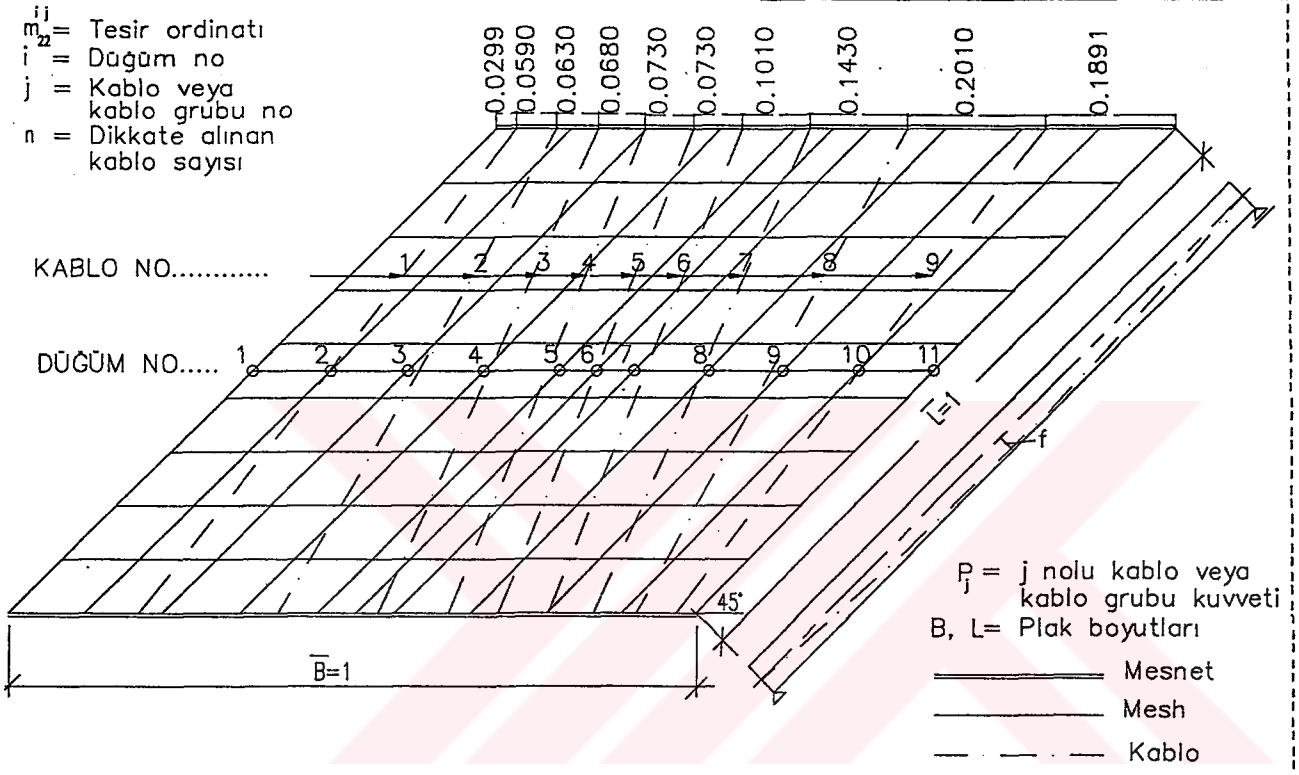
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.39477	-0.25010	-0.10050	-0.00173	0.04731	0.07621	0.09144	0.09542	0.09368	-0.34302
2	-0.43276	-0.31034	-0.09712	0.00313	0.05583	0.08600	0.10057	0.10349	0.10030	-0.39089
3	0.03264	-0.56573	-0.32190	-0.10010	0.00219	0.06071	0.10012	0.12009	0.12820	-0.54377
4	0.30819	-0.21526	-0.71214	-0.46584	-0.19623	-0.03561	0.07234	0.14517	0.19093	-0.90845
5	0.33172	0.08046	-0.36095	-0.76652	-0.63355	-0.31257	-0.06025	0.13286	0.27404	-1.31475
6	0.30439	0.11260	-0.16786	-0.55816	-0.76155	-0.56084	-0.17259	0.09640	0.30500	-1.40263
7	0.27355	0.14443	-0.05724	-0.31067	-0.63064	-0.76664	-0.36862	0.05923	0.33219	-1.32438
8	0.19066	0.15041	0.07358	-0.03473	-0.19457	-0.46285	-0.71283	-0.24926	0.30909	-0.93050
9	0.12808	0.12262	0.10053	0.06104	0.00265	-0.09911	-0.31651	-0.55847	0.03365	-0.52552
10	0.10022	0.10516	0.10068	0.08615	0.05608	0.00351	-0.09495	-0.30114	-0.43309	-0.37739
11	0.09364	0.09715	0.09161	0.07642	0.04762	-0.00129	-0.09863	-0.24095	-0.39704	-0.33147

N451F — m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Yelpaze kablo	N451F



DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.29010	-1.00460	-0.73244	-0.57233	-0.45438	-0.37022	-0.28173	-0.20215	-0.13288	-5.04085
2	-1.28833	-1.27408	-1.00098	-0.80550	-0.65000	-0.53405	-0.40912	-0.29476	-0.19470	-6.45160
3	-1.32998	-1.31338	-1.24388	-1.03889	-0.86128	-0.72336	-0.56591	-0.41769	-0.28556	-7.77993
4	-1.10362	-1.28768	-1.22990	-1.22025	-1.08032	-0.92426	-0.75327	-0.57677	-0.41539	-8.59148
5	-0.82921	-1.03628	-1.19403	-1.16438	-1.16313	-1.13543	-0.96670	-0.79026	-0.61314	-8.89248
6	-0.72667	-0.91135	-1.09183	-1.21538	-1.21482	-1.21475	-1.09420	-0.90646	-0.72735	-9.10283
7	-0.61291	-0.79293	-0.96455	-1.13538	-1.16325	-1.16340	-1.19410	-1.02872	-0.82922	-8.88443
8	-0.41536	-0.57700	-0.75105	-0.92359	-1.07886	-1.21918	-1.22945	-1.26200	-1.10391	-8.56037
9	-0.28556	-0.41677	-0.56398	-0.72272	-0.86002	-1.03698	-1.24143	-1.27793	-1.33045	-7.73585
10	-0.19471	-0.29363	-0.40759	-0.53349	-0.64892	-0.80397	-0.99711	-1.22483	-1.28880	-6.39308
11	-0.13289	-0.20132	-0.28065	-0.36980	-0.45356	-0.57115	-0.72944	-0.95698	-1.28965	-4.98540

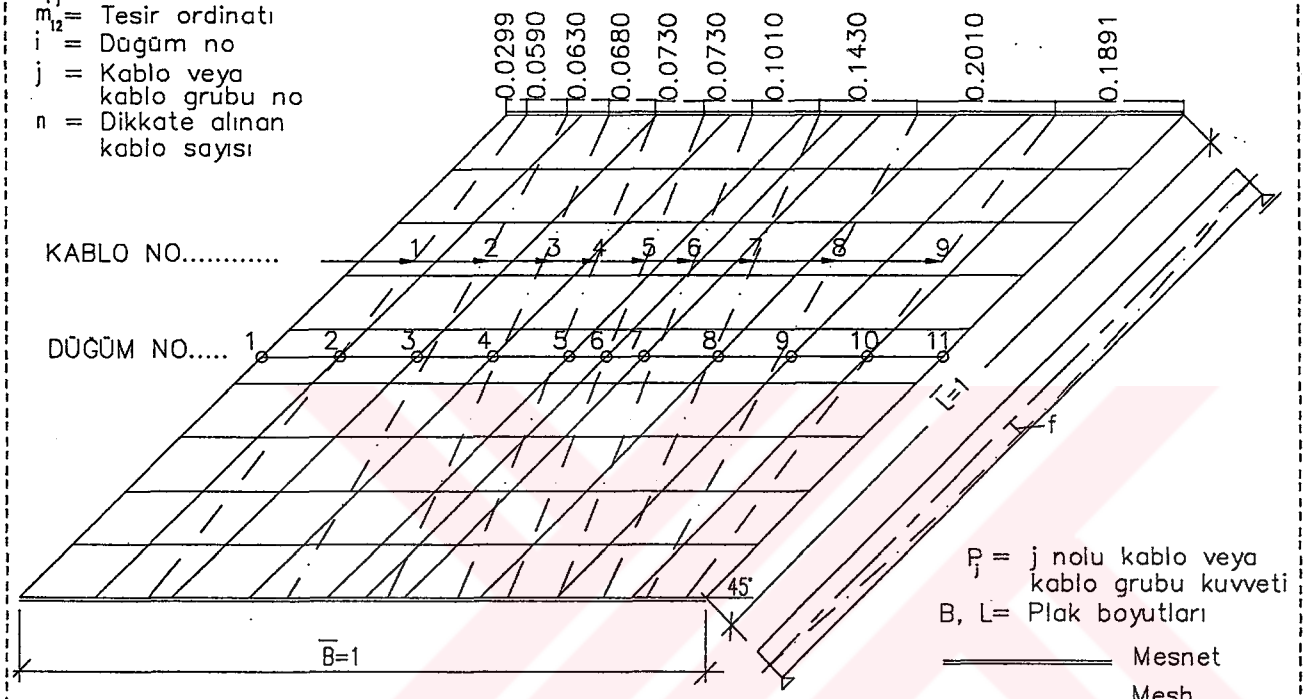
N451F

m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\overline{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\overline{B}}{\overline{L}} = 1$	Yelpaze kablo	N451F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

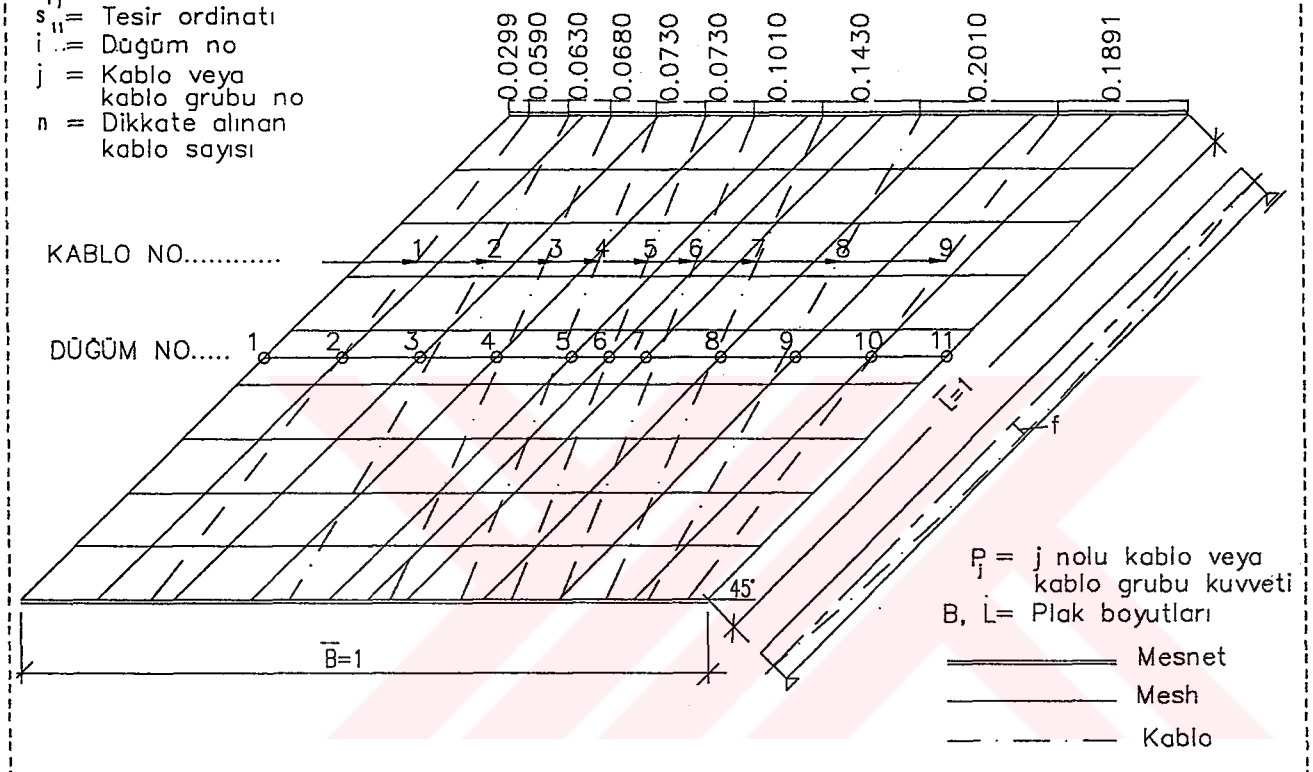
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.79855	-0.61130	-0.38211	-0.25662	-0.17731	-0.12454	-0.07723	-0.04011	-0.01053	-2.47825
2	-0.53516	-0.53133	-0.38418	-0.25994	-0.18082	-0.12505	-0.07383	-0.03444	-0.00298	-2.12773
3	-0.52504	-0.22011	-0.27729	-0.22142	-0.16936	-0.12301	-0.07661	-0.04036	-0.00954	-1.66275
4	-0.36543	-0.20687	0.00025	-0.09725	-0.12466	-0.11426	-0.08685	-0.06246	-0.03604	-1.09358
5	-0.19834	-0.16377	-0.07396	0.08217	0.01277	-0.08535	-0.08676	-0.09541	-0.08465	-0.69331
6	-0.12991	-0.11859	-0.09688	-0.01743	0.02579	-0.01702	-0.09613	-0.12181	-0.13002	-0.70200
7	-0.08476	-0.09273	-0.08748	-0.08623	0.01134	0.08243	-0.07188	-0.16688	-0.19941	-0.69560
8	-0.03588	-0.05993	-0.08650	-0.11423	-0.12454	-0.09807	0.00007	-0.19895	-0.36644	-1.08447
9	-0.00947	-0.03822	-0.07603	-0.12273	-0.16890	-0.22113	-0.27769	-0.21231	-0.52666	-1.65315
10	-0.00296	-0.03266	-0.07319	-0.12470	-0.18026	-0.25922	-0.38204	-0.50532	-0.53624	-2.09660
11	-0.01054	-0.03881	-0.07665	-0.12423	-0.17678	-0.25586	-0.37971	-0.57895	-0.79836	-2.43985

N451F — sll TESIR SAYILARI

$S_{ll}^{i} = \sum_{j=1}^{n} s_{ll}^{ij} P_j/B$

s_{ll}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$ | Yelpaze kablo | N451F



DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.81055	-0.47188	0.43508	0.27809	0.12487	0.00739	-0.00855	-0.00203	-0.00232	-2.44990
2	-2.29065	-0.56626	0.20259	0.19979	0.09971	-0.02571	-0.05102	-0.05509	-0.06008	-2.54673
3	-1.71943	-0.49648	0.12347	0.22317	0.15114	0.00242	-0.11552	-0.19761	-0.24494	-2.27378
4	-1.23019	-0.41997	0.08299	0.24095	0.20994	0.10776	-0.08934	-0.27955	-0.47303	-1.85043
5	-0.92790	-0.28280	0.10096	0.27864	0.29918	0.28372	0.00360	-0.32547	-0.72978	-1.29983
6	-0.82273	-0.23038	0.09900	0.25693	0.23798	0.25631	0.10065	-0.22739	-0.82290	-1.15253
7	-0.73107	-0.32898	0.00194	0.28914	0.29767	0.27975	0.10543	-0.27772	-0.92778	-1.29164
8	-0.47480	-0.28283	-0.08973	0.11338	0.20871	0.24214	0.09010	-0.41326	-1.23131	-1.83761
9	-0.24757	-0.20092	-0.11500	0.00725	0.14870	0.22265	0.13075	-0.48770	-1.72120	-2.26298
10	-0.06889	-0.06437	-0.04955	-0.02150	0.09106	0.19319	0.20929	-0.54956	-2.29275	-2.55307
11	-0.01793	-0.01743	-0.00889	0.00685	0.11025	0.27216	0.44306	-0.44811	-2.81245	-2.47245

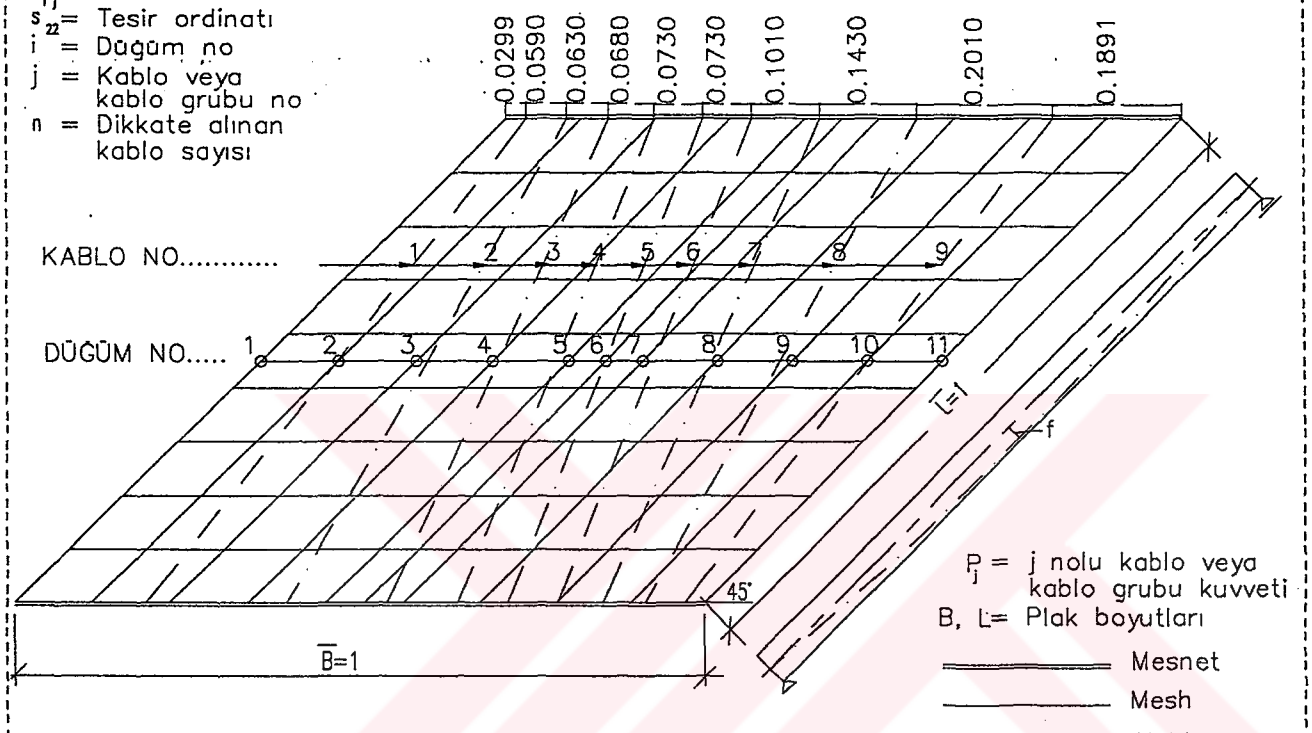
N451F

s22 TESİR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

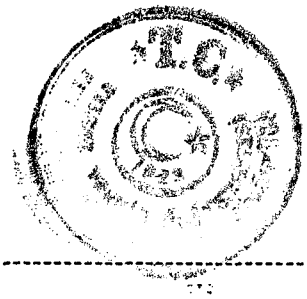
$\frac{B}{L} = 1$	Yelpaze kablo	N451F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.60665	-0.75239	1.01432	0.67205	0.27166	-0.05942	-0.04769	-0.02545	0.02526	-2.50830
2	-1.99495	-1.78150	-0.87282	-0.28015	-0.08485	-0.05722	0.02510	0.11850	0.21851	-4.70943
3	-1.87053	-1.98740	-1.87917	-1.16080	-0.67499	-0.29841	-0.10019	0.10638	0.33734	-7.52772
4	-1.79212	-1.89328	-1.93534	-1.71441	-1.41170	-1.01508	-0.59481	-0.17939	0.24508	-10.29112
5	-0.96696	-1.59075	-1.90810	-1.95257	-1.64444	-1.31169	-0.97793	-0.66288	-0.32471	-11.34005
6	-0.38520	-0.84390	-1.47595	-2.26040	-2.36725	-2.25198	-1.48490	-0.85351	-0.39463	-12.31775
7	-0.32334	-0.65807	-0.97189	-1.30968	-1.64183	-1.95737	-1.90895	-1.59305	-0.97248	-11.33680
8	0.24691	-0.17510	-0.59131	-1.02165	-1.40921	-1.72191	-1.93589	-1.89697	-1.80009	-10.30508
9	0.33874	0.11017	-0.09790	-0.30211	-0.67213	-1.15880	-1.87492	-1.99385	-1.88043	-7.53123
10	0.21569	0.11708	0.02675	-0.05800	-0.08483	-0.27500	-0.85379	-1.78165	-2.00512	-4.69890
11	0.01229	-0.03342	-0.06062	-0.09332	0.26660	0.70654	1.05047	-0.74335	-3.61365	-2.50840

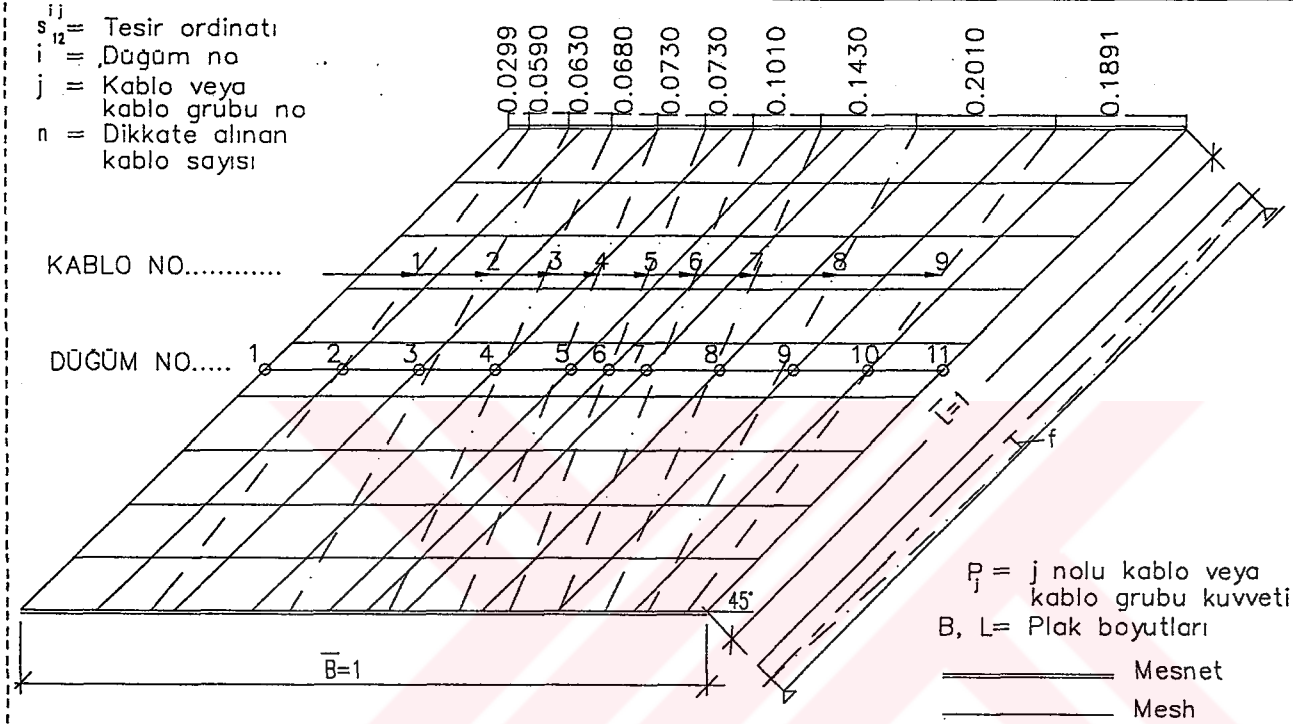


N451F — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1$	Yelpaze kablo	N451F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.87295	-0.79383	-0.16278	0.18550	0.32258	0.35872	0.24991	0.15008	0.06680	-2.49605
2	-2.49695	-1.27393	-0.49992	-0.06578	0.12270	0.22927	0.18885	0.14380	0.09970	-3.55230
3	-1.58229	-1.39825	-0.91247	-0.48710	-0.20204	0.03278	0.08538	0.11141	0.08930	-4.26330
4	-0.48432	-1.03514	-1.24468	-1.06394	-0.69271	-0.26219	-0.04673	0.11368	0.15352	-4.56255
5	0.18762	-0.45039	-0.97564	-1.29045	-1.27453	-1.07439	-0.54678	-0.01616	0.37155	-5.06915
6	0.29019	-0.37470	-0.83207	-1.01099	-1.05603	-1.00727	-0.83487	-0.37571	0.29061	-4.91080
7	0.37171	-0.01610	-0.54524	-1.08869	-1.27579	-1.28235	-0.98009	-0.45274	0.18864	-5.08068
8	0.15298	0.11301	-0.04457	-0.26368	-0.69399	-1.06031	-1.24540	-1.03578	-0.48185	-4.55960
9	0.08886	0.10999	0.08783	0.03817	-0.20396	-0.49236	-0.90687	-1.39455	-1.57904	-4.25193
10	0.10223	0.14521	0.19134	0.23756	0.12306	-0.07382	-0.49461	-1.26872	-2.49360	-3.53133
11	0.07111	0.15250	0.25380	0.37252	0.32365	0.17458	-0.16249	-0.78688	-2.86970	-2.47090

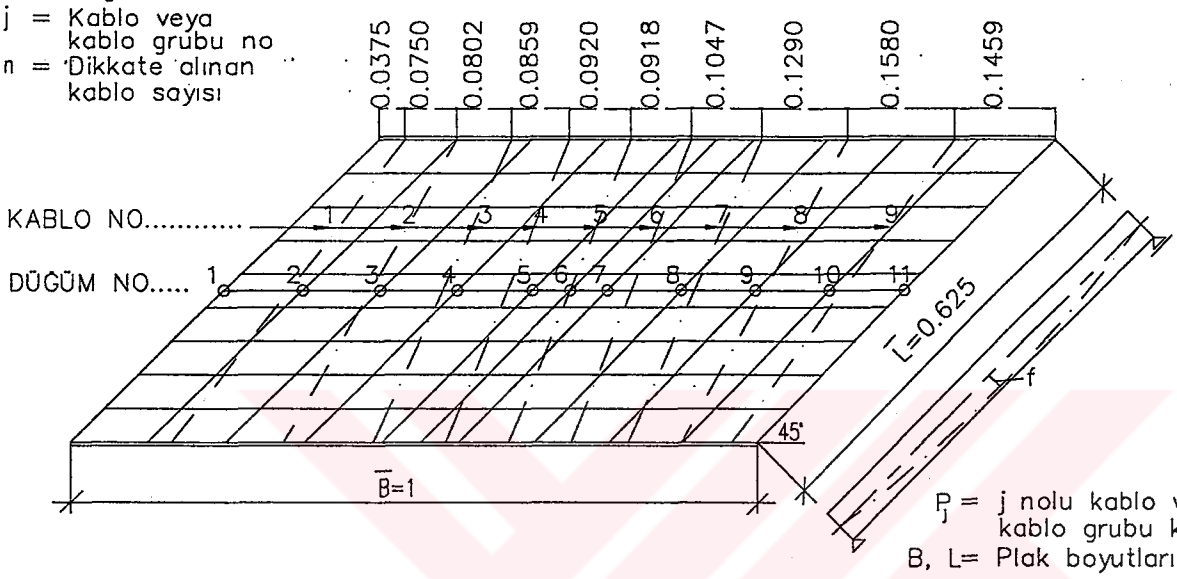
N452F

m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

$\frac{\bar{B}}{\bar{L}}=1.6$	Yelpaze kablo	N452F

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

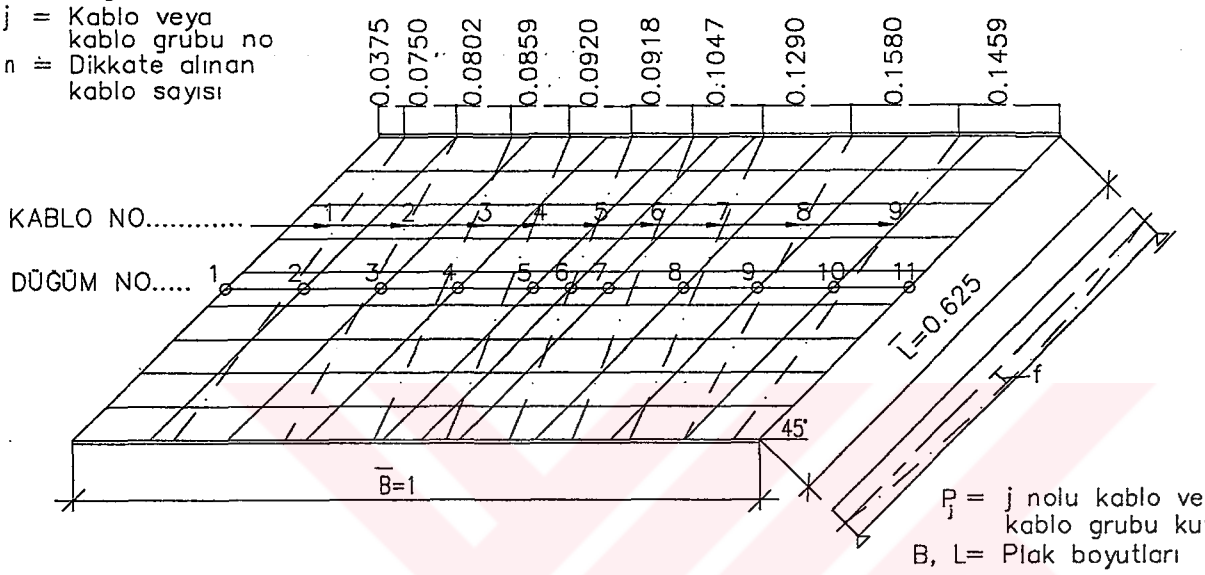
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.55766	-0.13533	0.04209	0.09822	0.09562	0.07162	0.03930	0.03014	0.01746	-0.29855
2	-0.60803	-0.37115	0.03741	0.12533	0.11886	0.08844	0.04822	0.03696	0.02143	-0.50255
3	0.44703	-0.94937	-0.56493	0.00370	0.12927	0.12832	0.08099	0.06813	0.04358	-0.61327
4	0.46425	-0.15897	-1.23550	-0.79828	-0.07995	0.12053	0.12062	0.12253	0.09120	-1.35355
5	0.31677	0.15775	-0.21797	-1.22725	-0.97516	-0.20871	0.06622	0.16355	0.16960	-1.75520
6	0.24257	0.15617	-0.02830	-0.60152	-1.18538	-0.60715	-0.01718	0.16359	0.22614	-1.65108
7	0.18166	0.16082	0.08060	-0.20239	-1.02037	-1.20120	-0.16602	0.17665	0.29572	-1.69452
8	0.09733	0.12306	0.14906	0.12345	-0.08342	-0.79132	-1.03533	-0.10955	0.43330	-1.09338
9	0.04640	0.06886	0.10016	0.12928	0.12646	-0.00201	-0.44407	-0.97814	0.38294	-0.57013
10	0.02278	0.03749	0.05965	0.08877	0.11888	0.12292	0.03202	-0.39296	-0.55618	-0.46663
11	0.01857	0.03058	0.04863	0.07204	0.09592	0.09750	0.03337	-0.15469	-0.61374	-0.37181

N452F — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N452F

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

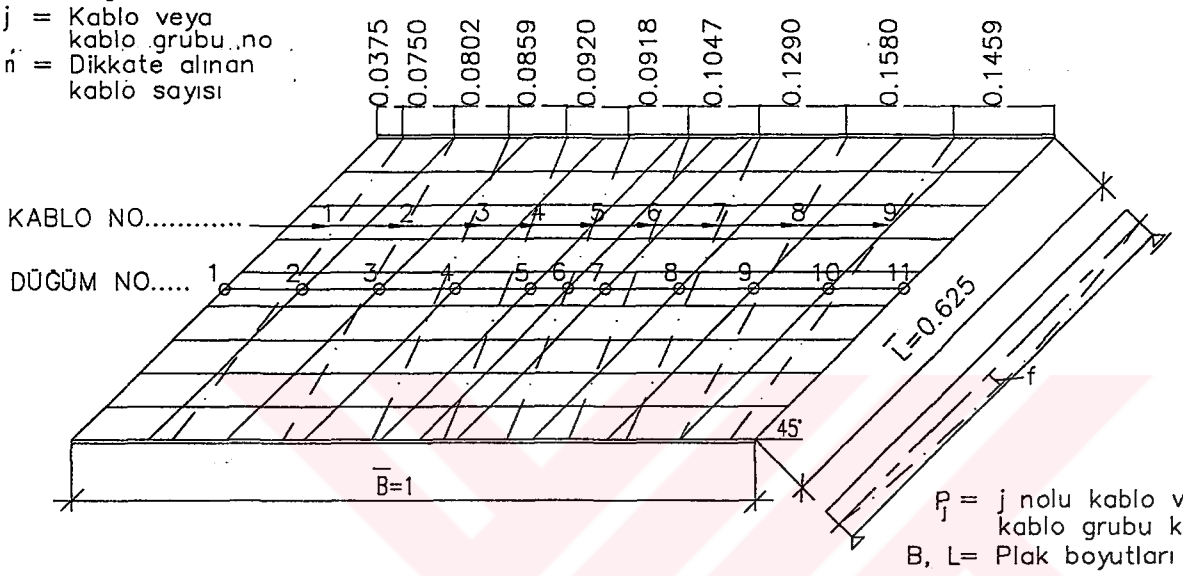
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.35975	-0.61756	-0.29598	-0.12725	-0.05531	-0.02180	-0.00618	-0.00167	0.00107	-2.48440
2	-0.72823	-0.49016	-0.30921	-0.14067	-0.05694	-0.01766	-0.00262	0.00153	0.00318	-1.74078
3	-0.51582	0.01951	-0.12785	-0.15464	-0.08406	-0.03296	-0.00900	-0.00288	0.00098	-0.90672
4	-0.18035	-0.13085	0.19438	-0.00154	-0.12371	-0.06593	-0.02435	-0.01144	-0.00126	-0.34505
5	-0.04838	-0.10531	-0.09988	0.19820	0.07424	-0.07777	-0.04082	-0.02541	-0.00342	-0.12856
6	-0.01428	-0.05645	-0.07953	-0.01550	0.07657	-0.02566	-0.06401	-0.04508	-0.01373	-0.23767
7	-0.00337	-0.03087	-0.05314	-0.07132	0.12565	0.18471	-0.09043	-0.08894	-0.04657	-0.07428
8	-0.00117	-0.01298	-0.03078	-0.06305	-0.10294	0.01699	0.15123	-0.14212	-0.18143	-0.36625
9	0.00114	-0.00320	-0.01125	-0.03159	-0.08065	-0.14459	-0.11286	0.00907	-0.51034	-0.88428
10	0.00345	0.00141	-0.00323	-0.01701	-0.05630	-0.13850	-0.24582	-0.51348	-0.67635	-1.64582
11	0.00119	-0.00181	-0.00764	-0.02150	-0.05481	-0.12621	-0.23666	-0.65053	-1.17215	-2.27015

N452F — m22 TESIR SAYILARI

$$M_{22}^{i}=\sum_{j=i}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}}=1.6$	Yelpaze kablo	N452F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

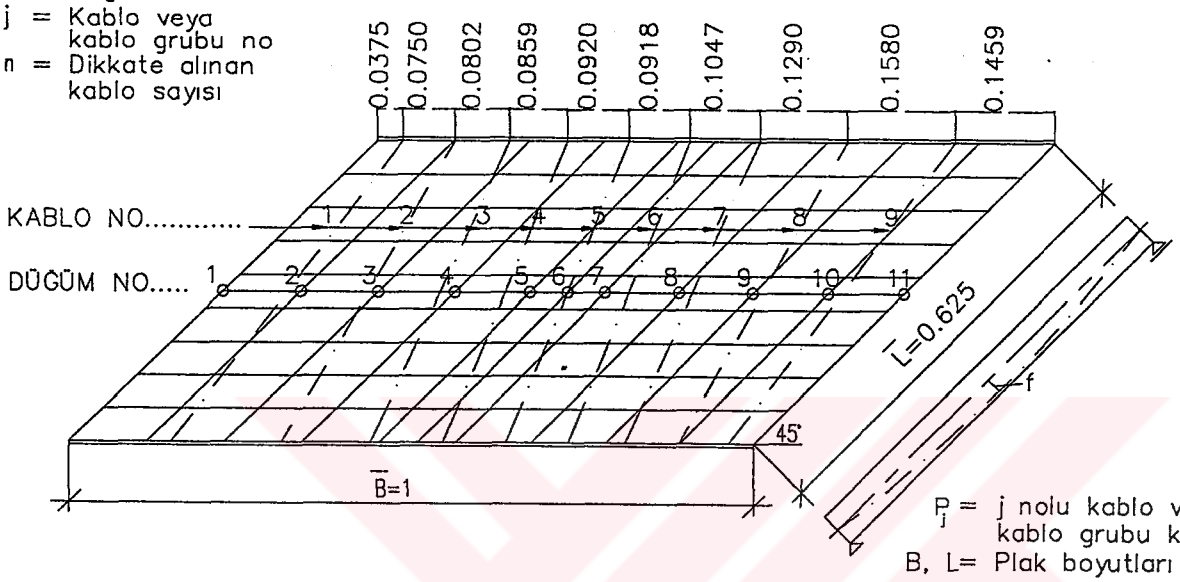
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.25175	-1.20140	-0.73529	-0.43119	-0.25967	-0.14876	-0.06741	-0.04401	-0.02035	-5.15980
2	-2.28558	-1.71438	-1.21198	-0.75223	-0.46459	-0.26864	-0.12301	-0.08103	-0.03809	-6.93955
3	-1.83065	-1.74773	-1.62012	-1.17778	-0.76485	-0.46676	-0.22141	-0.15146	-0.07547	-8.05625
4	-1.08558	-1.41475	-1.64448	-1.57840	-1.21558	-0.78142	-0.39121	-0.27878	-0.14828	-8.53850
5	-0.59204	-0.89049	-1.34260	-1.57807	-1.51720	-1.21760	-0.66690	-0.51177	-0.29514	-8.61183
6	-0.43977	-0.68883	-1.04706	-1.49085	-1.59775	-1.47578	-0.84929	-0.68000	-0.41330	-8.68270
7	-0.31382	-0.51951	-0.82448	-1.22625	-1.49223	-1.55725	-1.10003	-0.88070	-0.55480	-8.46910
8	-0.15745	-0.28335	-0.48399	-0.78430	-1.21335	-1.54865	-1.36180	-1.44215	-1.02149	-8.29652
9	-0.08003	-0.15438	-0.27411	-0.46725	-0.76383	-1.16165	-1.32578	-1.81267	-1.71760	-7.75728
10	-0.04034	-0.08278	-0.15229	-0.26865	-0.46355	-0.74455	-0.97458	-1.77385	-2.08883	-6.58948
11	-0.02155	-0.04498	-0.08347	-0.14873	-0.25895	-0.42696	-0.59236	-1.25415	-1.97980	-4.81090

N452F — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N452F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

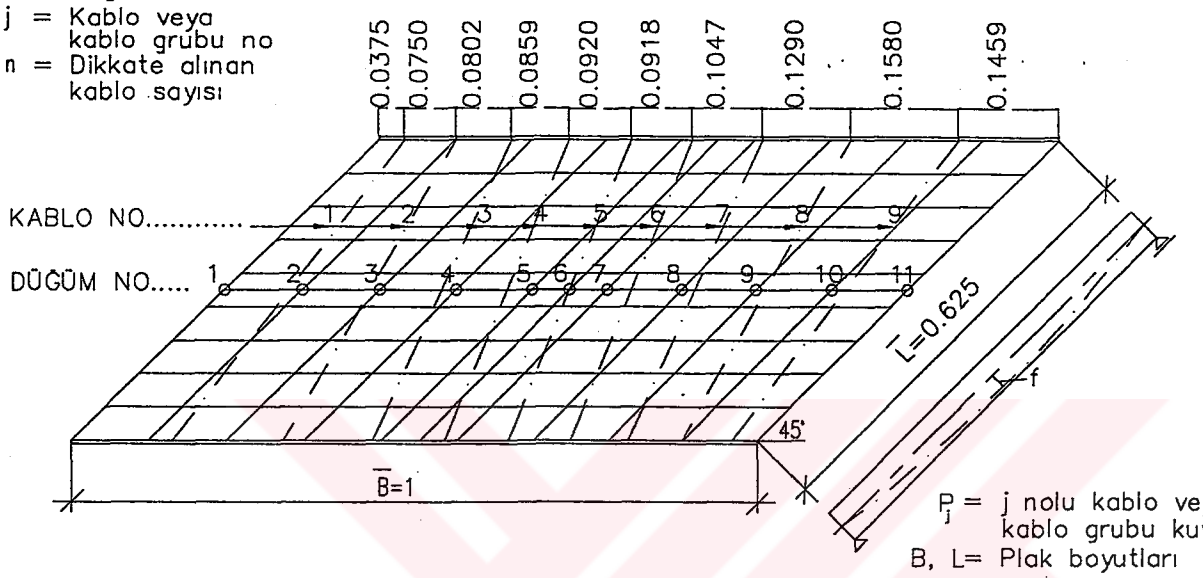
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.26960	0.25341	0.40862	0.19290	0.01232	-0.06808	-0.05736	-0.00847	-0.00015	-2.53640
2	-2.56330	-0.14862	0.27121	0.03509	-0.06211	-0.08520	-0.06918	-0.01669	-0.00323	-2.64203
3	-1.68512	-0.24162	0.16547	-0.01192	-0.14049	-0.16865	-0.13657	-0.05179	-0.03707	-2.30778
4	-1.09879	-0.33123	0.08647	0.11226	-0.05864	-0.19776	-0.23014	-0.16404	-0.12777	-2.00963
5	-0.75518	-0.34478	-0.03551	0.13405	0.08547	-0.08673	-0.22108	-0.33746	-0.31472	-1.87593
6	-0.51571	-0.40530	-0.13092	0.03347	0.13166	0.03462	-0.12811	-0.40359	-0.51727	-1.90115
7	-0.31358	-0.33766	-0.22290	-0.08857	0.08466	0.13478	-0.03371	-0.34230	-0.75609	-1.87538
8	-0.12749	-0.16341	-0.22968	-0.19866	-0.05966	0.11187	0.08691	-0.32840	-1.10084	-2.00935
9	-0.03729	-0.05126	-0.13554	-0.16807	-0.14058	-0.01324	0.16485	-0.23723	-1.68848	-2.30685
10	-0.00360	-0.01662	-0.06916	-0.08411	-0.06071	0.03528	0.27057	-0.14246	-2.56555	-2.63638
11	-0.00062	-0.00812	-0.05628	-0.06652	0.01434	0.19458	0.40574	0.26144	-3.27215	-2.52760

N452F — s22 TESIR SAYILARI

$S_{22} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N452F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

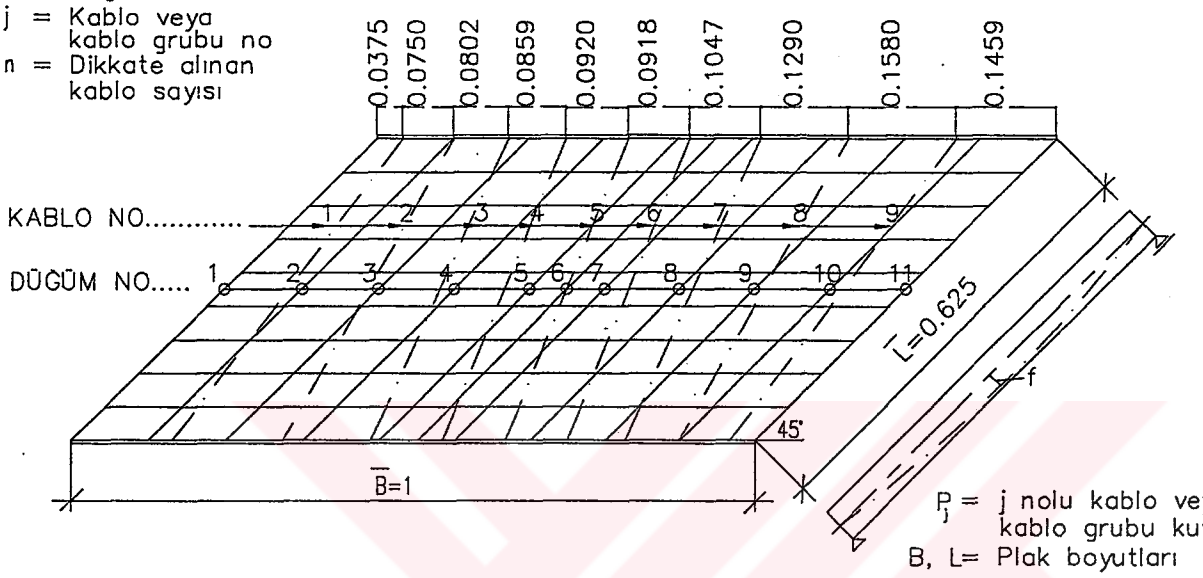
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.14700	-0.21666	0.66884	1.38362	0.57172	-0.09705	-0.21491	-0.01746	-0.03082	-2.09975
2	-2.88074	-2.45135	-1.01369	0.52204	0.65351	0.23286	-0.10395	-0.01140	-0.03228	-5.08498
3	-2.30195	-2.59200	-2.68903	-1.24569	0.20610	0.52119	0.19394	0.10309	-0.11080	-7.91523
4	-0.87790	-2.48678	-2.71623	-2.87548	-1.38387	-0.13684	0.39746	0.28573	-0.10704	-9.90095
5	0.22707	-1.19004	-2.25077	-3.01420	-2.83855	-1.54663	-0.16657	0.37295	-0.09361	-10.50025
6	0.23480	-0.03275	-1.36213	-2.56600	-3.30568	-2.56610	-1.36406	-0.03225	0.22670	-10.76750
7	-0.09377	0.37376	-0.16472	-1.54178	-2.84310	-3.01378	-2.24985	-1.18768	0.20795	-10.51300
8	-0.10954	0.28820	0.40278	-0.13126	-1.38615	-2.87908	-2.71350	-2.48400	-0.90290	-9.91542
9	-0.11363	0.10597	0.20148	0.52406	0.20929	-1.24082	-2.69240	-2.59353	-2.32149	-7.92110
10	-0.03475	-0.00942	-0.09837	0.23690	0.66146	0.53406	-1.01844	-2.45460	-2.90283	-5.08600
11	-0.03357	-0.01299	-0.20072	-0.08861	0.58171	1.39387	0.65124	-0.21071	-4.18380	-2.10360

N452F — s12 TESIR SAYILARI

$\frac{B}{L} = 1.6$	Yelpaze kablo	N452F

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

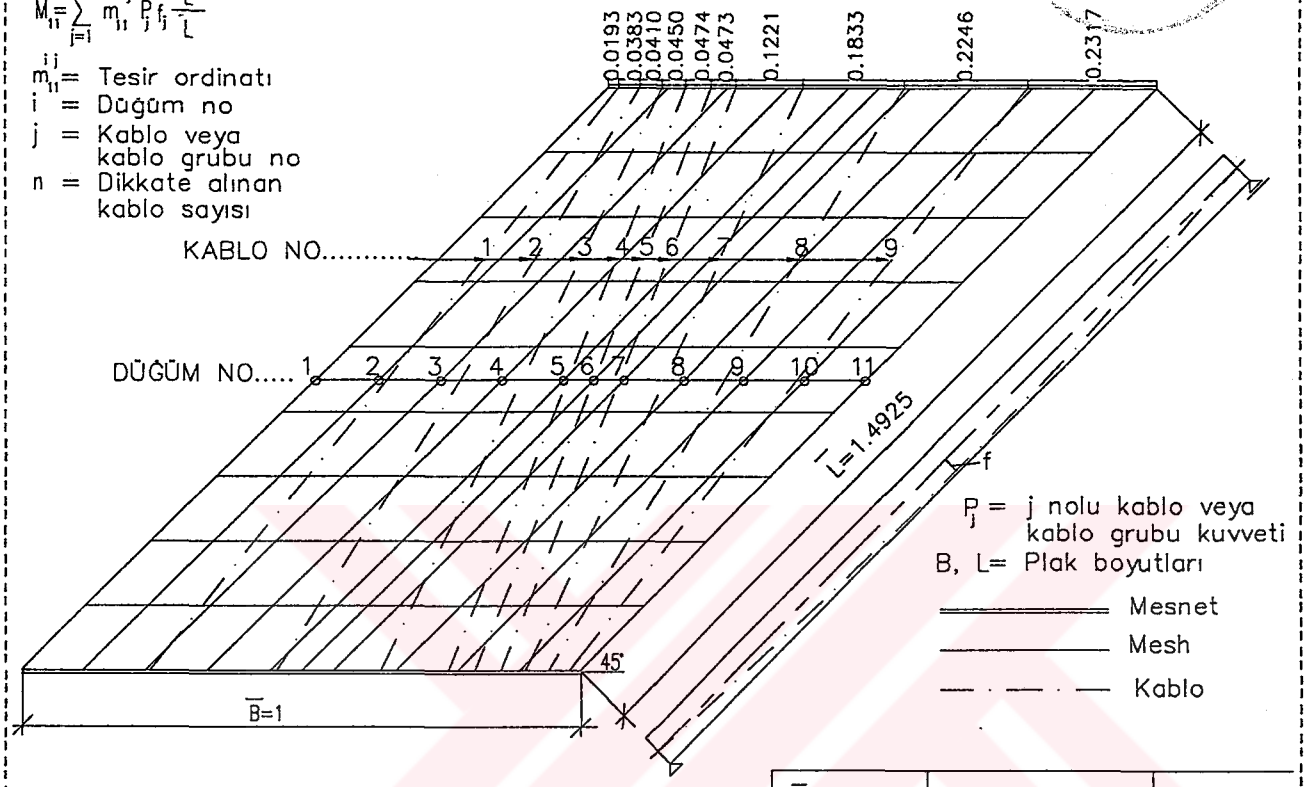
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.84120	0.27096	0.32804	-0.43220	-0.16249	0.10104	0.11311	0.00002	0.01713	-3.60560
2	-2.91845	-1.32519	-0.04334	-0.32010	-0.16466	0.04168	0.10808	0.01721	0.01746	-4.58730
3	-0.95760	-1.98475	-1.15489	-0.37743	-0.30316	-0.17987	-0.00143	-0.00563	0.08513	-4.87963
4	0.36883	-0.76905	-1.82775	-1.20575	-0.55835	-0.18064	-0.09035	-0.04643	0.14945	-4.16002
5	0.30626	0.31946	-0.69651	-1.54343	-1.43488	-0.75144	-0.19710	-0.05848	0.26246	-3.79370
6	0.27014	0.05264	-0.26716	-1.11445	-1.53235	-1.12353	-0.26921	0.05172	0.27262	-3.65958
7	0.26256	-0.05891	-0.19719	-0.74479	-1.43210	-1.54993	-0.70215	0.31601	0.31353	-3.79295
8	0.15038	-0.04814	-0.09422	-0.18028	-0.55578	-1.19897	-1.83253	-0.77418	0.37186	-4.16190
9	0.08615	-0.00763	-0.00669	-0.18062	-0.30392	-0.37165	-1.15116	-1.98572	-0.95265	-4.87385
10	0.01835	0.01573	0.10390	0.03982	-0.16718	-0.32430	-0.03833	-1.31790	-2.90468	-4.57458
11	0.01829	-0.00170	0.10784	0.09809	-0.16578	-0.43901	0.33270	0.28251	-3.82205	-3.58915

N453F

m_{11} TESIR SAYILARI

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



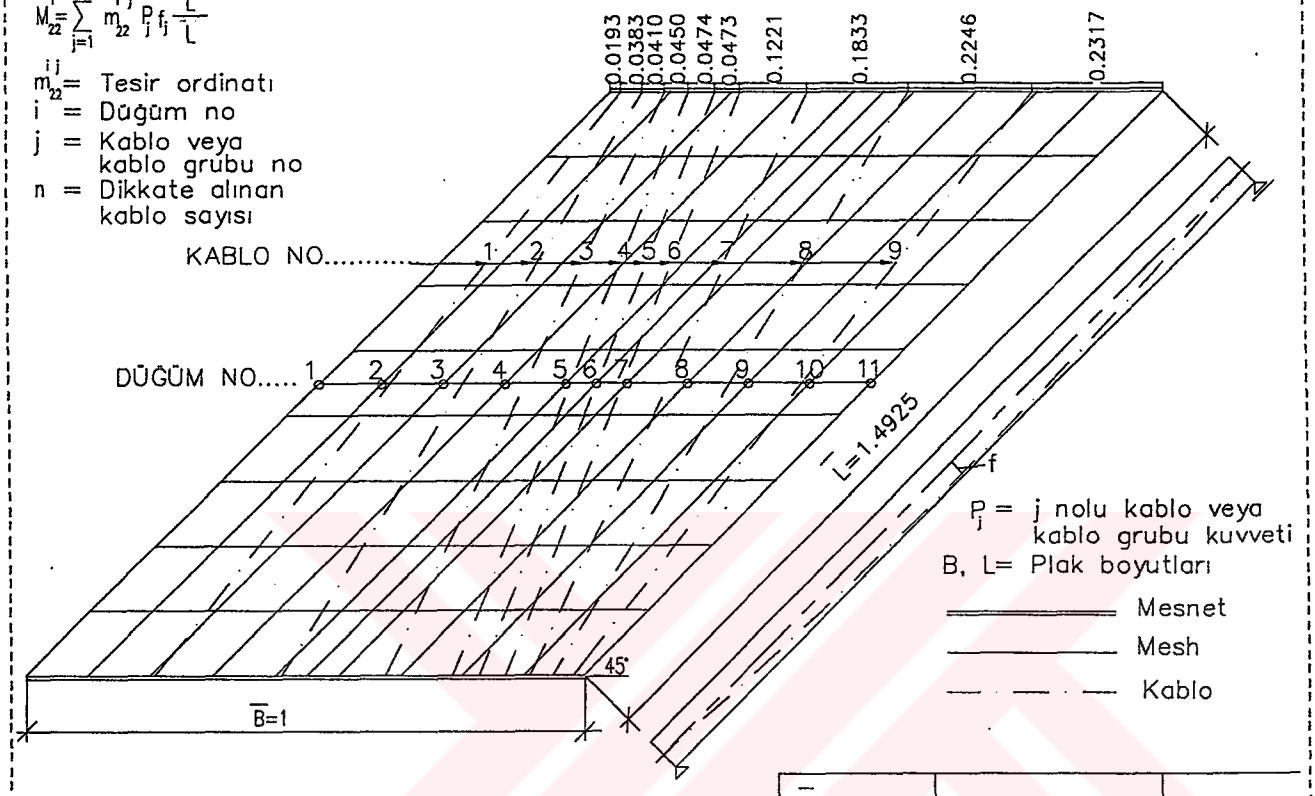
$\frac{\bar{B}}{\bar{L}}$ = 0.67	Yelpaze kablo	N453F

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.26706	-0.23951	-0.14634	-0.06297	-0.01465	0.02743	0.08259	0.13535	0.17610	-0.30906
2	-0.28228	-0.25682	-0.13906	-0.05477	-0.00618	0.03648	0.09250	0.14524	0.18596	-0.27891
3	-0.11596	-0.33631	-0.22525	-0.10593	-0.04835	0.00503	0.07633	0.14601	0.19962	-0.40481
4	0.09006	-0.20935	-0.38096	-0.26035	-0.15336	-0.06695	0.03481	0.14030	0.22086	-0.58496
5	0.18969	0.00254	-0.28959	-0.39524	-0.35193	-0.24445	-0.07370	0.09732	0.22893	-0.83644
6	0.21068	0.05211	-0.16053	-0.36556	-0.43696	-0.36585	-0.16078	0.05257	0.21059	-0.96374
7	0.22888	0.09675	-0.07363	-0.24456	-0.35286	-0.39549	-0.28966	0.00288	0.18931	-0.83838
8	0.22101	0.14011	0.03507	-0.06687	-0.15412	-0.26033	-0.38053	-0.20860	0.09005	-0.58421
9	0.19974	0.14587	0.07655	0.00508	-0.04877	-0.10588	-0.22485	-0.33624	-0.11600	-0.40450
10	0.18606	0.14514	0.09269	0.03653	-0.00651	-0.05469	-0.13880	-0.25705	-0.28225	-0.27888
11	0.17619	0.13524	0.08278	0.02748	-0.01498	-0.06289	-0.14606	-0.23964	-0.26700	-0.30889

N453F — m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



$\frac{\bar{B}}{\bar{L}}$ = 0.67	Yelpaze kablo	N453F

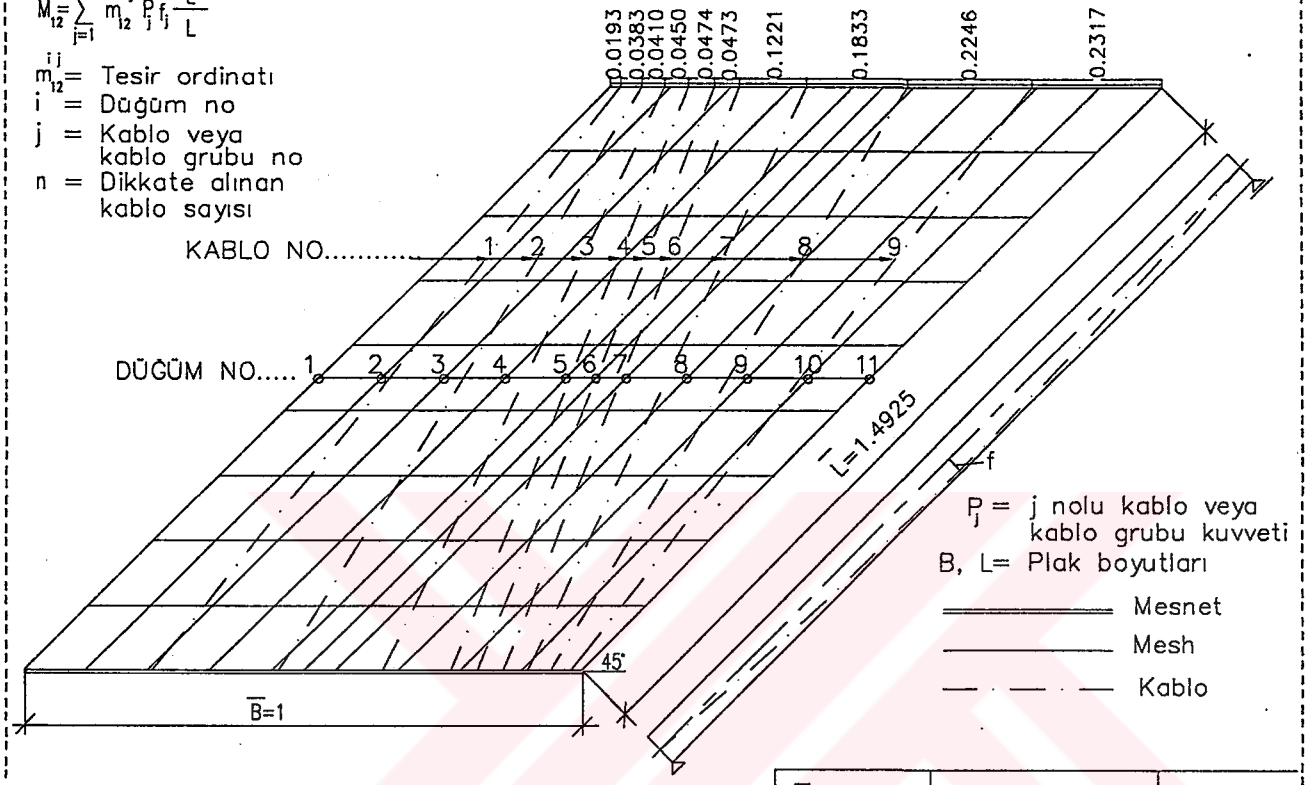
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.95290	-0.79734	-0.68972	-0.62042	-0.57677	-0.53350	-0.46836	-0.37688	-0.30796	-5.32385
2	-0.92439	-0.93426	-0.84911	-0.77823	-0.73279	-0.68154	-0.60289	-0.48955	-0.40386	-6.39663
3	-0.99298	-0.96329	-0.99605	-0.93078	-0.88179	-0.82720	-0.74097	-0.61157	-0.51347	-7.45808
4	-0.96020	-1.01505	-1.02282	-1.05213	-1.01934	-0.96661	-0.87899	-0.74016	-0.63452	-8.28980
5	-0.85833	-0.97370	-1.04285	-1.02164	-1.06105	-1.06923	-1.00268	-0.87306	-0.77180	-8.67433
6	-0.82006	-0.92194	-1.05892	-1.06483	-1.06098	-1.06518	-1.05902	-0.92188	-0.81993	-8.79278
7	-0.77189	-0.87317	-1.00268	-1.06903	-1.06067	-1.02161	-1.04232	-0.97307	-0.85772	-8.67213
8	-0.63471	-0.74039	-0.87892	-0.96641	-1.01971	-1.05227	-1.02282	-1.01513	-0.96000	-8.29033
9	-0.51360	-0.61179	-0.74085	-0.82702	-0.88219	-0.93086	-0.99580	-0.96317	-0.99278	-7.45805
10	-0.40396	-0.48974	-0.60273	-0.68138	-0.73317	-0.77827	-0.84888	-0.93445	-0.92429	-6.39688
11	-0.30802	-0.37703	-0.46817	-0.53338	-0.57711	-0.62043	-0.68957	-0.79769	-0.95271	-5.32410

N453F

m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

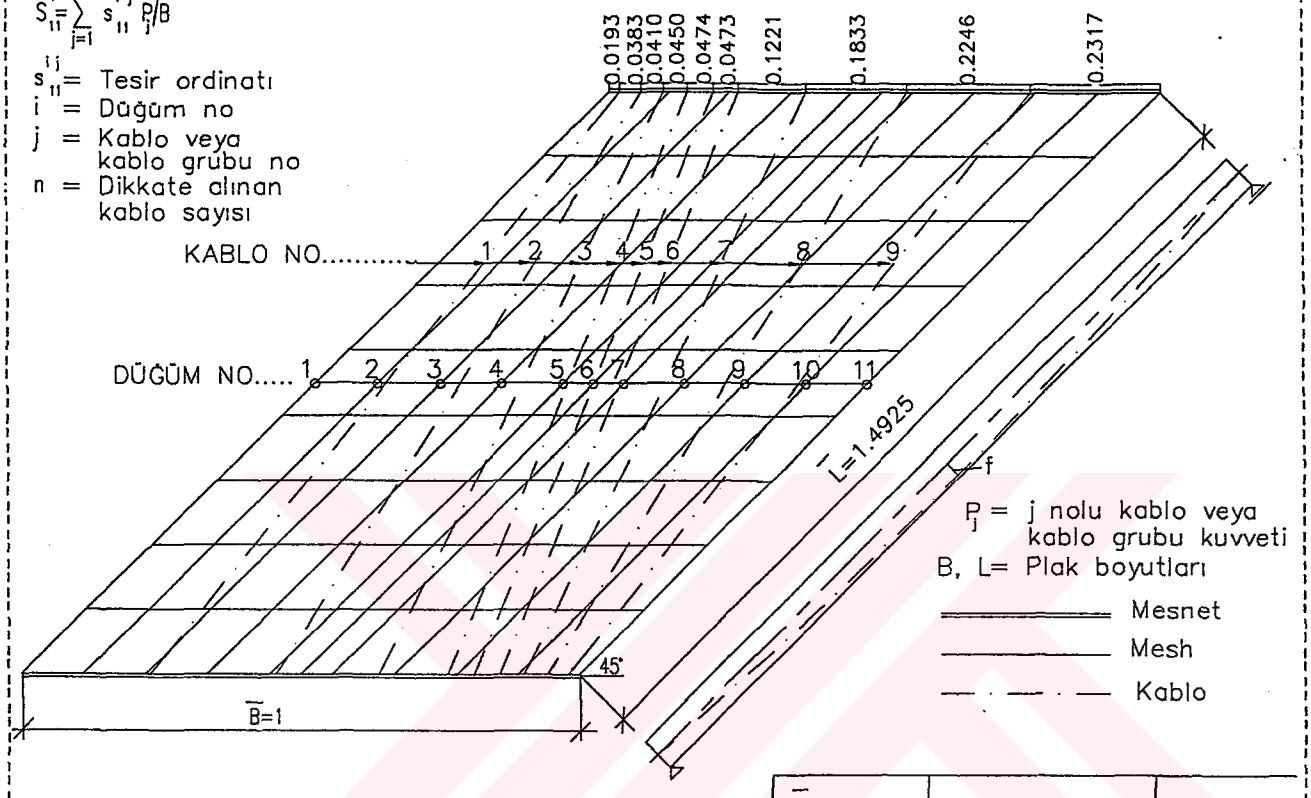
$\frac{\bar{B}}{\bar{L}}$ = 0.67	Yelpaze kablo	N453F

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.59727	-0.50607	-0.39727	-0.32078	-0.27565	-0.23421	-0.17623	-0.10719	-0.05470	-2.66940
2	-0.45585	-0.45930	-0.39805	-0.33009	-0.28729	-0.24575	-0.18774	-0.11676	-0.06264	-2.54345
3	-0.44697	-0.31571	-0.34239	-0.31583	-0.27900	-0.24562	-0.19936	-0.13804	-0.09125	-2.37415
4	-0.41656	-0.28934	-0.21146	-0.24808	-0.24816	-0.24033	-0.21574	-0.17779	-0.14872	-2.19618
5	-0.33078	-0.28684	-0.19504	-0.13716	-0.17770	-0.20754	-0.22330	-0.22529	-0.22672	-2.01035
6	-0.27709	-0.25376	-0.22758	-0.15668	-0.14641	-0.15678	-0.22746	-0.25387	-0.27689	-1.97653
7	-0.22742	-0.22579	-0.22385	-0.20789	-0.17769	-0.13744	-0.19500	-0.28737	-0.33094	-2.01340
8	-0.14888	-0.17792	-0.21568	-0.24025	-0.24818	-0.24806	-0.21122	-0.28974	-0.41629	-2.19623
9	-0.09132	-0.13819	-0.19922	-0.24554	-0.27929	-0.31582	-0.34207	-0.31567	-0.44673	-2.37385
10	-0.06265	-0.11690	-0.18756	-0.24567	-0.28764	-0.33007	-0.39776	-0.45939	-0.45571	-2.54338
11	-0.05468	-0.10732	-0.17603	-0.23413	-0.27598	-0.32075	-0.39705	-0.50637	-0.59710	-2.66940

N453F — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



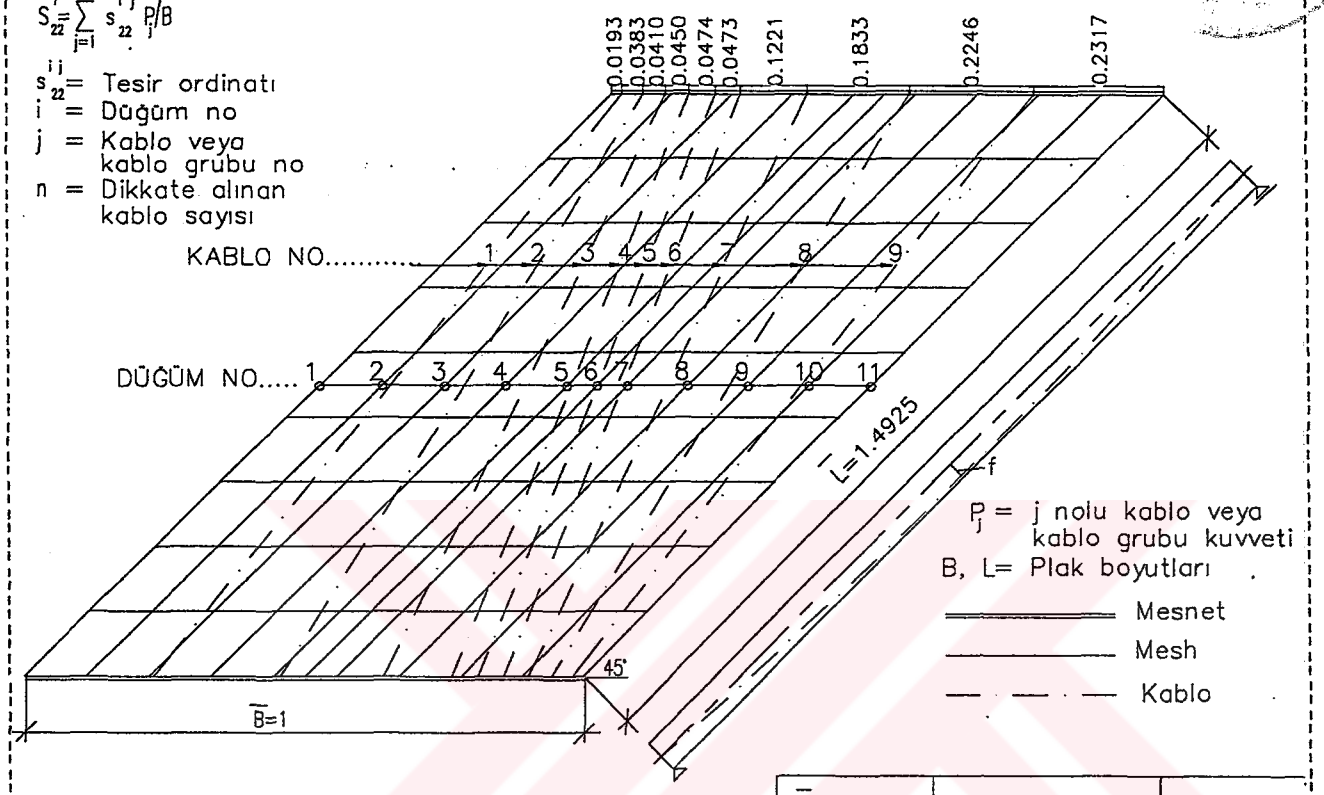
$\frac{B}{L}$ = 0.67	Yelpaze kablo	N453F

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.20495	-0.91770	-0.04260	0.16161	0.19335	-10.60550	0.22721	0.25839	0.27969	-12.65050
2	-1.87215	-0.92926	-0.15574	0.08280	0.11852	-7.01363	0.14094	0.14892	0.14362	-9.33615
3	-1.55408	-0.78799	-0.14033	0.10576	0.12944	-2.43095	0.07840	-0.00821	-0.10756	-4.71548
4	-1.17180	-0.54324	-0.10275	0.12654	0.14621	-1.68355	0.06172	-0.10460	-0.29651	-3.56800
5	-0.77403	-0.24009	0.07203	0.13606	0.11927	-1.44050	-0.04340	-0.25264	-0.49011	-2.91338
6	-0.62707	-0.24627	0.07641	0.26016	0.27513	-1.25640	0.07689	-0.24632	-0.62626	-2.31372
7	-0.48990	-0.25190	-0.04278	0.09536	0.11874	-1.08232	0.07004	-0.24206	-0.77469	-2.59948
8	-0.29743	-0.10463	0.06110	0.14260	0.14619	-0.89367	-0.10146	-0.54340	-1.17030	-2.76098
9	-0.10840	-0.00842	0.07770	0.12139	0.12944	-0.52548	-0.13782	-0.78845	-1.55260	-2.79263
10	0.14301	0.14883	0.14140	0.12712	0.11861	-0.89903	-0.15326	-0.93001	-1.87050	-3.17383
11	0.27963	0.25820	0.22709	0.20216	0.19342	0.83780	-0.03841	-0.91816	-2.20275	-1.16105

N453F — s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



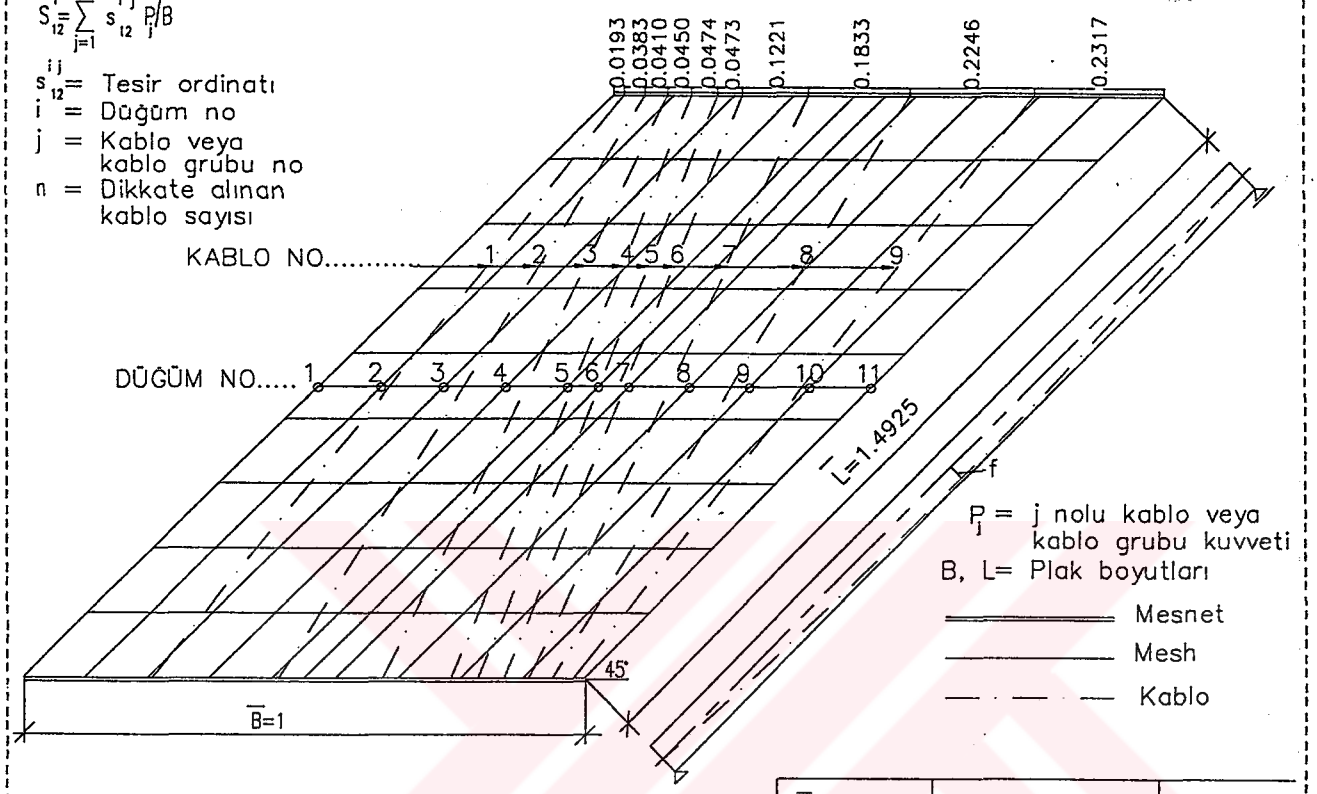
B/L = 0.67	Yelpaze kablo	N453F

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.87405	-1.02455	0.19873	0.31337	0.32762	-0.73105	0.36518	0.44195	0.53454	-2.44830
2	-1.63501	-1.52164	-0.97820	-0.58226	-0.41091	-1.84876	0.00298	0.29651	0.57039	-6.10685
3	-1.54628	-1.62775	-1.65783	-1.29872	-1.05607	-0.40782	-0.45369	-0.03323	0.39193	-7.68940
4	-1.63595	-1.45345	-1.72973	-1.65753	-1.47083	-1.06751	-0.94677	-0.56160	-0.15473	-10.67810
5	-1.03391	-0.92646	-1.09947	-1.54913	-1.68545	-0.81875	-1.58915	-1.35713	-1.08157	-11.14078
6	-1.19776	-1.33004	-1.09976	-0.76221	-0.70691	-1.03423	-1.08899	-1.32529	-1.19145	-9.73680
7	-1.08057	-1.35626	-1.58867	-1.76925	-1.68573	-1.71699	-1.10271	-0.92668	-1.03528	-12.26225
8	-0.15336	-0.56111	-0.94286	-1.26943	-1.46860	-0.77279	-1.72620	-1.45070	-1.63256	-9.97763
9	0.39391	-0.03263	-0.44904	-0.81358	-1.05356	0.51793	-1.65473	-1.62695	-1.54621	-6.26480
10	0.57193	0.29702	0.00657	-0.24564	-0.40943	0.75784	-0.97532	-1.52262	-1.63559	-3.15523
11	0.53859	0.44098	0.35927	0.32609	0.32756	14.23990	0.21243	-1.02375	-2.87240	12.54865

N453F — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



$\frac{\bar{B}}{\bar{L}}$ = 0.67	Yelpaze kablo	N453F

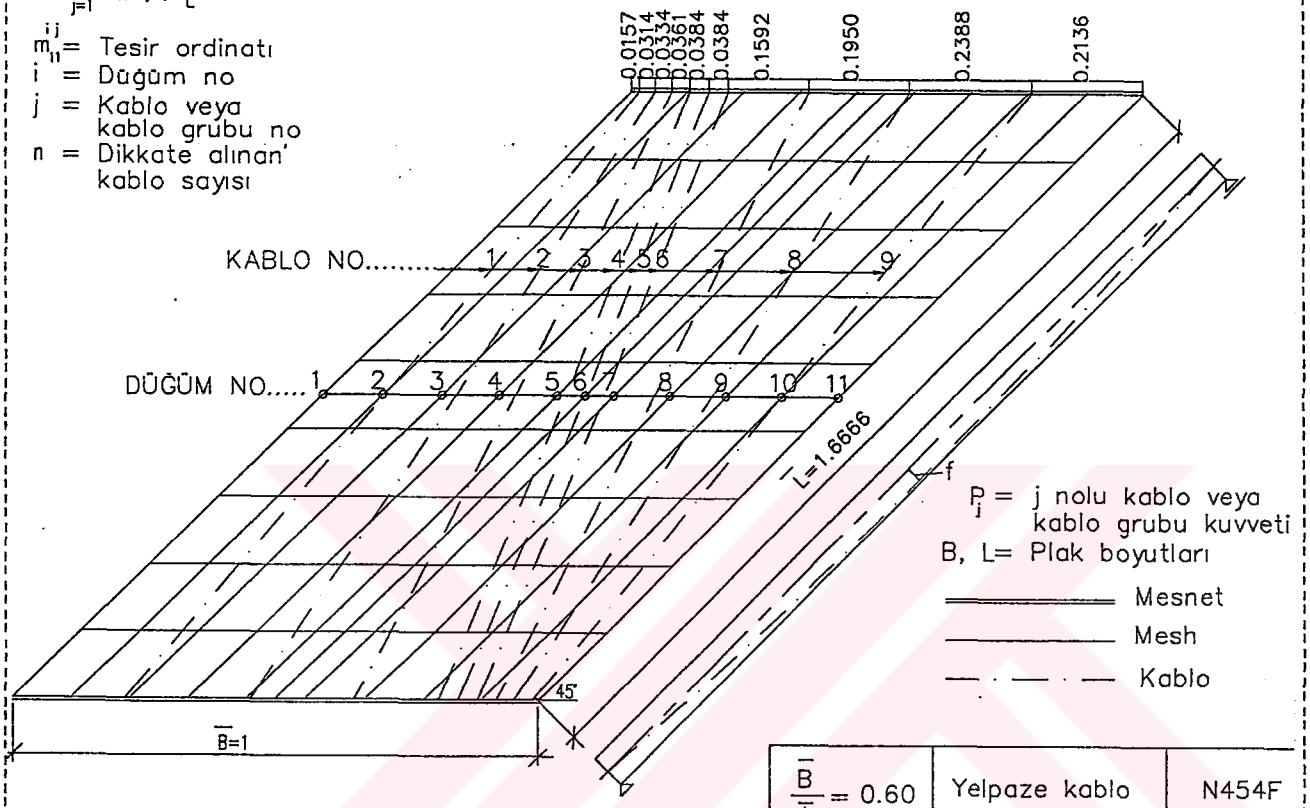
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.30035	-1.48340	-0.41570	0.05514	0.17487	1.52785	0.35722	0.45363	0.51621	-1.11455
2	-2.15663	-1.27977	-0.65042	-0.22265	-0.07600	0.85090	0.18805	0.33033	0.45639	-2.55977
3	-1.61898	-1.20868	-0.79719	-0.45591	-0.30506	-0.95794	0.01319	0.18335	0.33031	-4.81693
4	-1.02124	-1.09707	-0.88622	-0.69129	-0.56168	-0.81338	-0.22975	-0.01592	0.17780	-5.13878
5	-0.73928	-0.99606	-1.01690	-0.81497	-0.69481	-0.95550	-0.42772	-0.21322	-0.01062	-5.86905
6	-0.30197	-0.54369	-0.88739	-1.10928	-1.14000	-0.86766	-0.89551	-0.54682	-0.30590	-6.59813
7	-0.00915	-0.21267	-0.42333	-0.56057	-0.69437	-0.58273	-1.01561	-0.99562	-0.73928	-5.23335
8	0.17976	-0.01457	-0.22495	-0.41018	-0.56015	-0.81656	-0.88660	-1.09824	-1.02305	-4.85455
9	0.33124	0.18424	0.01699	-0.15919	-0.30360	-1.31572	-0.79468	-1.20890	-1.61803	-4.86765
10	0.45642	0.33078	0.19099	0.04192	-0.07481	-1.77222	-0.64580	-1.27939	-2.15401	-4.90618
11	0.51520	0.45397	0.36029	0.25274	0.17563	-3.59730	-0.41314	-1.48445	-2.29860	-6.03565

N454F

m11 TESIR SAYILARI

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



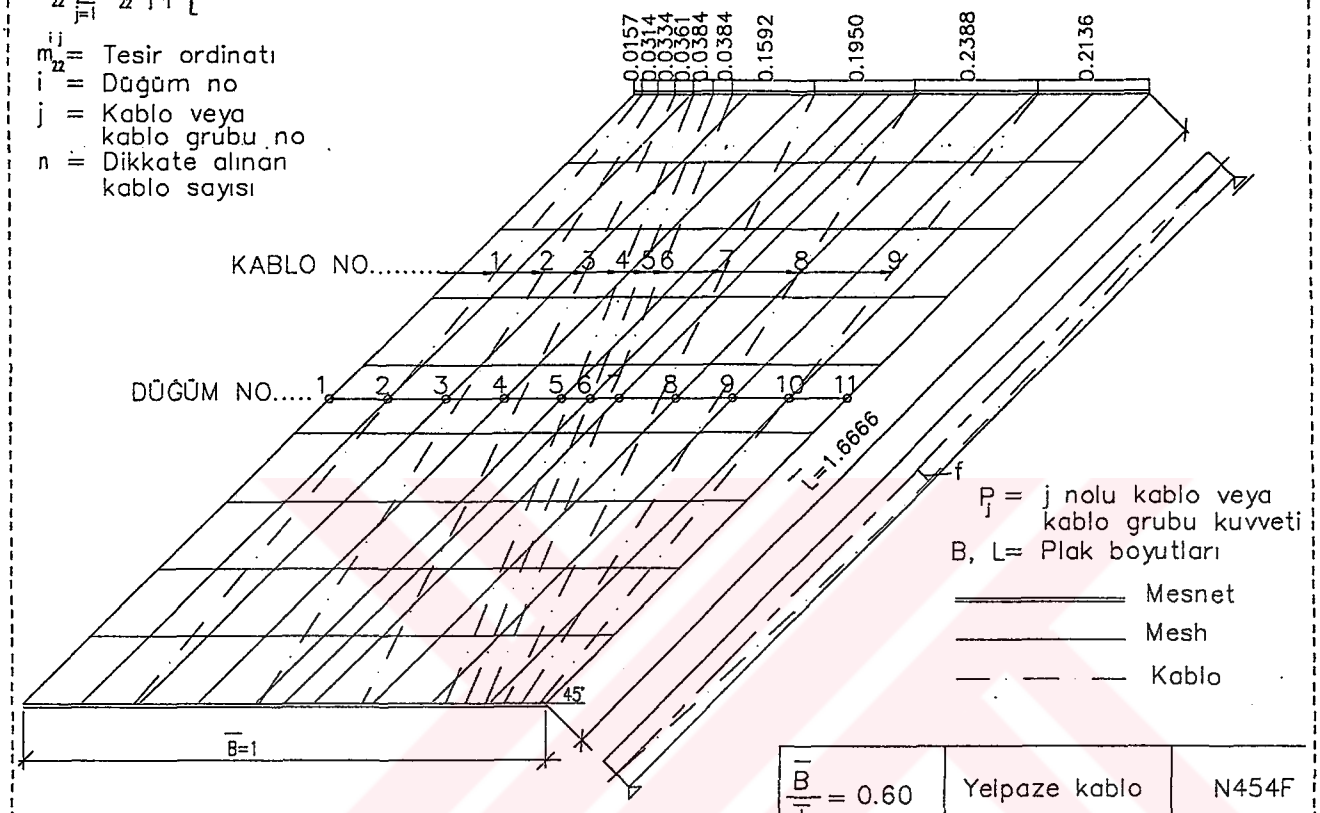
$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N454F

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.24105	-0.22913	-0.16053	-0.06285	-0.02512	0.01020	0.08607	0.14236	0.19190	-0.28815
2	-0.23497	-0.24366	-0.15187	-0.05419	-0.01691	0.01903	0.09544	0.15175	0.20129	-0.23409
3	-0.09645	-0.28649	-0.22767	-0.09729	-0.05325	-0.01097	0.07934	0.14823	0.20842	-0.33612
4	0.06859	-0.17502	-0.32780	-0.21321	-0.13811	-0.07927	0.04254	0.13504	0.21598	-0.47127
5	0.15835	0.00089	-0.22791	-0.32786	-0.29557	-0.23770	-0.04605	0.08869	0.20791	-0.67924
6	0.18362	0.04640	-0.12065	-0.33537	-0.36729	-0.33439	-0.11993	0.04617	0.18394	-0.81749
7	0.20760	0.08890	-0.04680	-0.23877	-0.29596	-0.32788	-0.22714	0.00058	0.15868	-0.68078
8	0.21574	0.13524	0.04196	-0.07999	-0.13856	-0.21410	-0.32803	-0.17534	0.06895	-0.47413
9	0.20825	0.14842	0.07889	-0.01146	-0.05355	-0.09781	-0.22845	-0.28620	-0.09619	-0.33811
10	0.20116	0.15194	0.09507	0.01863	-0.01716	-0.05463	-0.15242	-0.24301	-0.23480	-0.23523
11	0.19175	0.14250	0.08566	0.00976	-0.02542	-0.06334	-0.16111	-0.22874	-0.24122	-0.29015

N454F — m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_i \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N454F

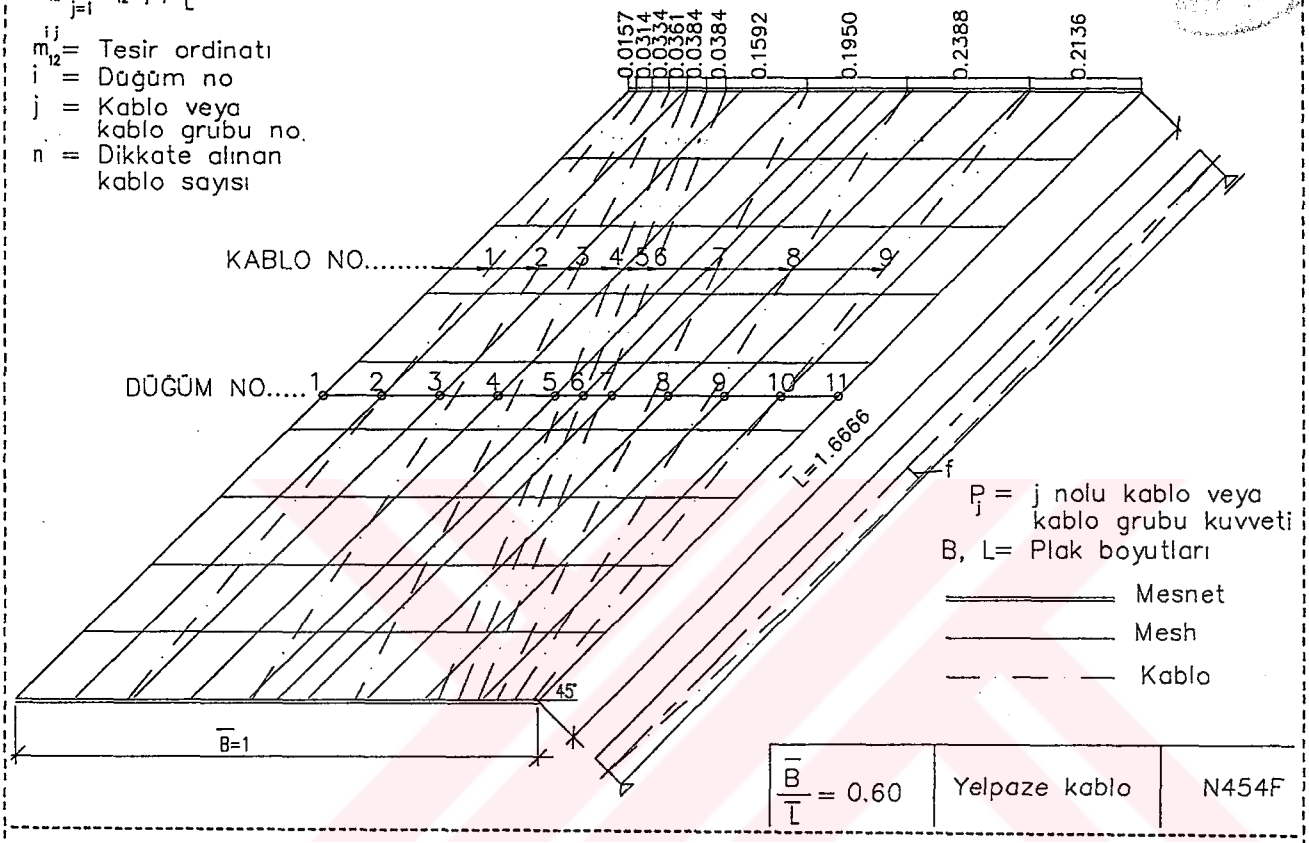
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.88981	-0.77740	-0.69860	-0.62874	-0.59746	-0.57439	-0.49624	-0.41926	-0.35260	-5.43445
2	-0.85677	-0.88418	-0.83837	-0.77227	-0.73813	-0.71350	-0.62203	-0.52933	-0.44958	-6.40418
3	-0.92504	-0.89711	-0.95984	-0.90566	-0.86702	-0.84425	-0.74524	-0.64103	-0.55210	-7.33728
4	-0.90105	-0.95454	-0.96549	-1.01210	-0.98540	-0.96817	-0.86398	-0.75190	-0.65705	-8.05970
5	-0.82593	-0.93030	-0.99818	-1.00057	-1.01600	-1.03710	-0.96828	-0.85819	-0.76673	-8.40133
6	-0.79988	-0.89230	-1.01308	-1.02401	-1.00800	-1.02411	-1.01284	-0.89227	-0.79980	-8.46625
7	-0.76683	-0.85831	-0.96854	-1.03720	-1.01584	-1.00022	-0.99830	-0.93033	-0.82586	-8.40142
8	-0.65721	-0.75205	-0.86443	-0.96869	-0.98556	-1.01211	-0.96525	-0.95427	-0.90104	-8.06063
9	-0.55230	-0.64120	-0.74575	-0.84476	-0.86727	-0.90603	-0.95980	-0.89722	-0.92513	-7.33945
10	-0.44980	-0.52950	-0.62258	-0.71401	-0.73844	-0.77265	-0.83865	-0.88394	-0.85671	-6.40630
11	-0.35280	-0.41939	-0.49677	-0.57484	-0.59778	-0.62916	-0.69886	-0.77708	-0.88936	-5.43605

N454F

m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_i \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no.
n = Dikkate alınan kablo sayısı



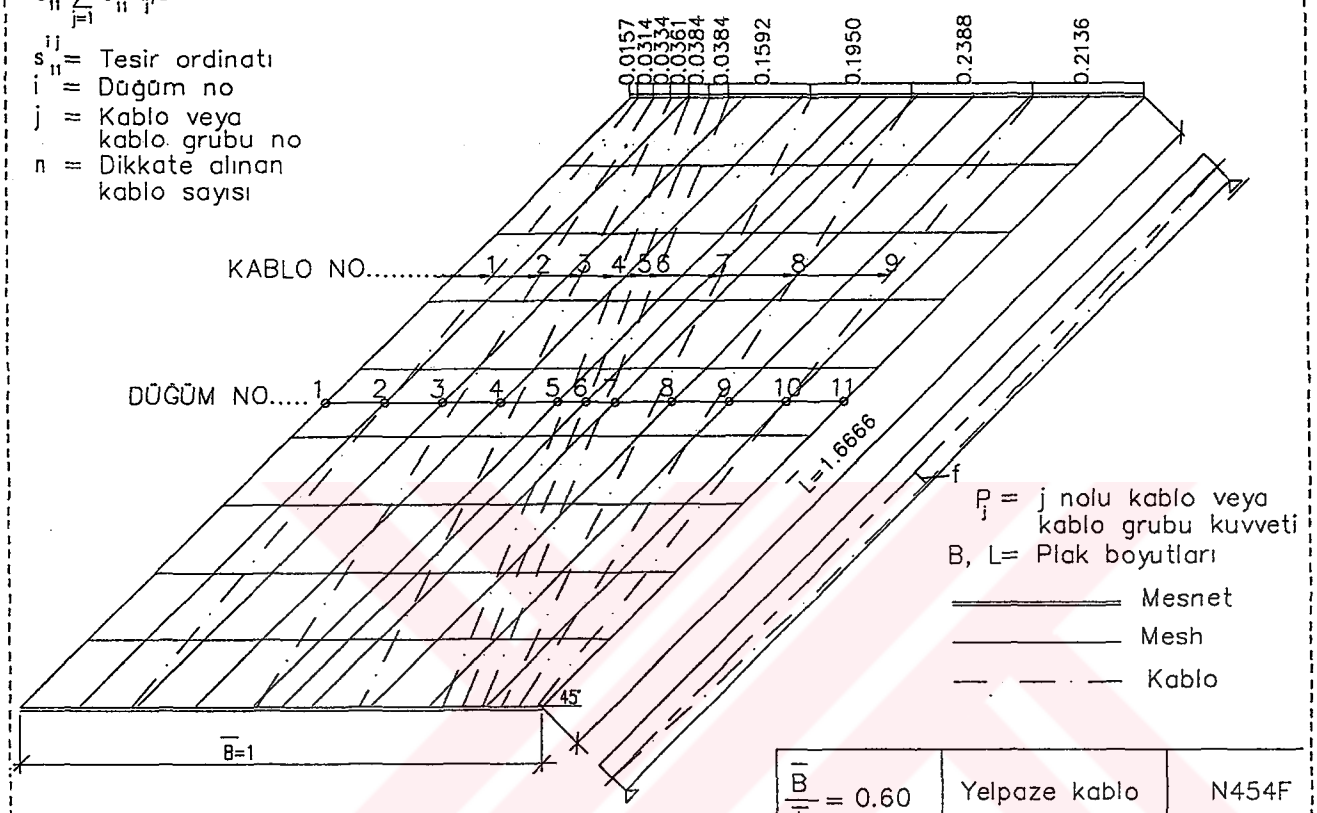
$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N454F

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.55277	-0.49471	-0.41316	-0.32795	-0.29420	-0.26532	-0.19073	-0.12673	-0.07065	-2.73620
2	-0.44122	-0.44750	-0.41643	-0.34250	-0.30947	-0.28176	-0.20776	-0.14382	-0.08720	-2.67765
3	-0.44481	-0.32849	-0.36346	-0.33664	-0.30708	-0.28683	-0.22560	-0.17237	-0.12402	-2.58928
4	-0.42208	-0.31759	-0.24854	-0.29041	-0.28758	-0.28632	-0.24810	-0.21618	-0.18513	-2.50193
5	-0.35138	-0.31849	-0.24512	-0.21191	-0.23291	-0.25354	-0.26473	-0.26350	-0.26052	-2.40213
6	-0.30542	-0.28975	-0.27170	-0.21206	-0.20292	-0.21219	-0.27209	-0.28941	-0.30545	-2.36098
7	-0.26056	-0.26380	-0.26455	-0.25340	-0.23273	-0.21159	-0.24576	-0.31808	-0.35149	-2.40198
8	-0.18528	-0.21639	-0.24827	-0.28649	-0.28762	-0.29023	-0.24868	-0.31703	-0.42240	-2.50240
9	-0.12422	-0.17250	-0.22598	-0.28718	-0.30732	-0.33691	-0.36355	-0.32841	-0.44526	-2.59130
10	-0.08741	-0.14388	-0.20824	-0.28222	-0.30979	-0.34291	-0.41684	-0.44729	-0.44143	-2.67995
11	-0.07083	-0.12674	-0.19121	-0.26577	-0.29451	-0.32839	-0.41356	-0.49430	-0.55246	-2.73775

N454F — s11 TESIR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N454F

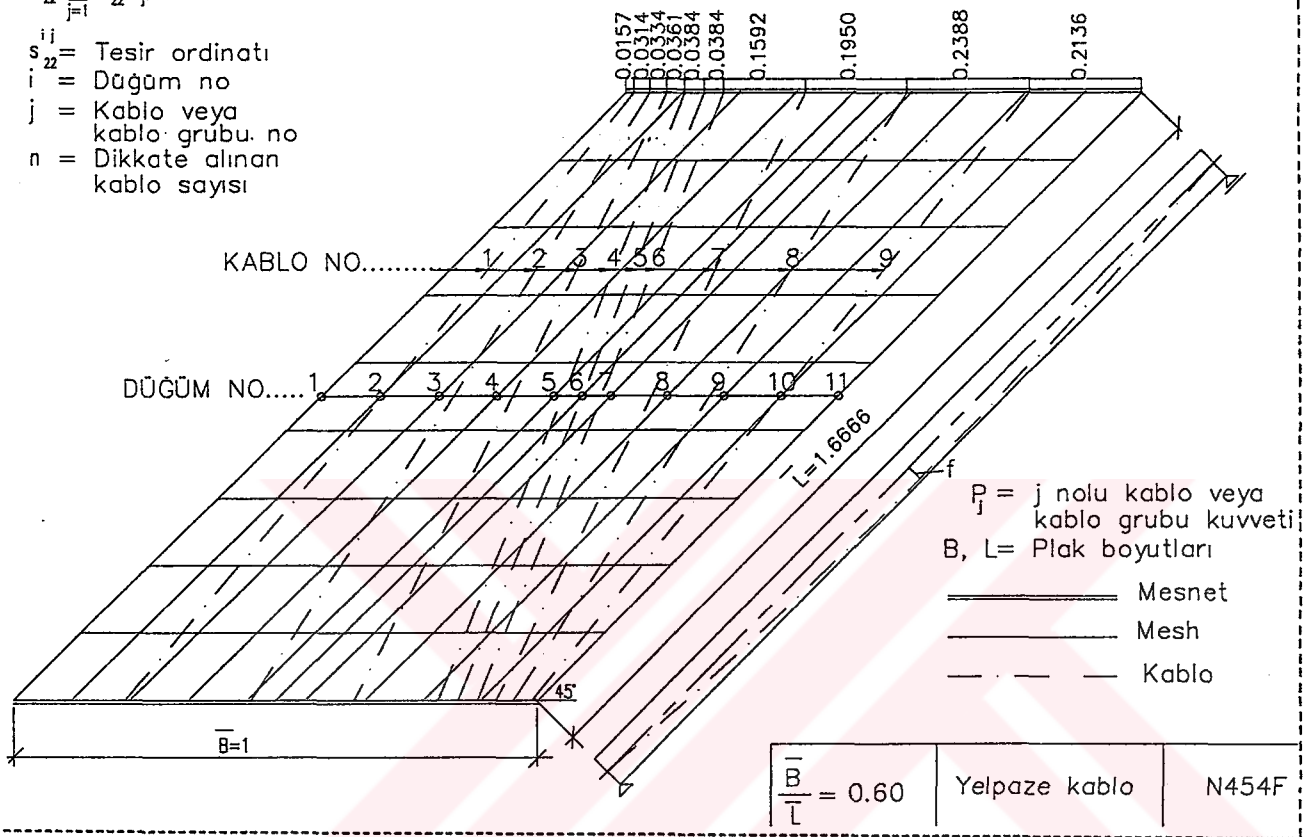
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.17875	-1.13955	-0.26426	0.10728	0.16156	0.21591	0.31007	0.39817	0.46837	-1.92130
2	-1.84895	-1.09017	-0.33271	0.02729	0.07857	0.12971	0.19706	0.25558	0.29328	-2.29035
3	-1.58130	-0.93340	-0.28878	0.04860	0.08474	0.12082	0.11068	0.07703	0.02418	-2.33740
4	-1.21625	-0.64830	-0.21248	0.10700	0.12832	0.14958	0.06085	-0.05393	-0.19602	-1.88121
5	-0.78073	-0.28083	-0.06302	0.04429	0.06485	0.08533	-0.04392	-0.25224	-0.46687	-1.69315
6	-0.64887	-0.29260	0.01244	0.19583	0.19561	0.19532	0.01416	-0.29245	-0.64909	-1.26968
7	-0.46674	-0.25195	-0.04566	0.08655	0.06521	0.04383	-0.06249	-0.28081	-0.78098	-1.69303
8	-0.19623	-0.05413	0.05985	0.15051	0.12844	0.10631	-0.21001	-0.64768	-1.21600	-1.87892
9	0.02397	0.07679	0.11028	0.12161	0.08508	0.04855	-0.28586	-0.93247	-1.58118	-2.33325
10	0.29277	0.25535	0.19711	0.13063	0.07919	0.02770	-0.32934	-1.08893	-1.84900	-2.28453
11	0.46827	0.39866	0.31023	0.21683	0.16226	0.10784	-0.26065	-1.13820	-2.17985	-1.91460

N454F

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N454F

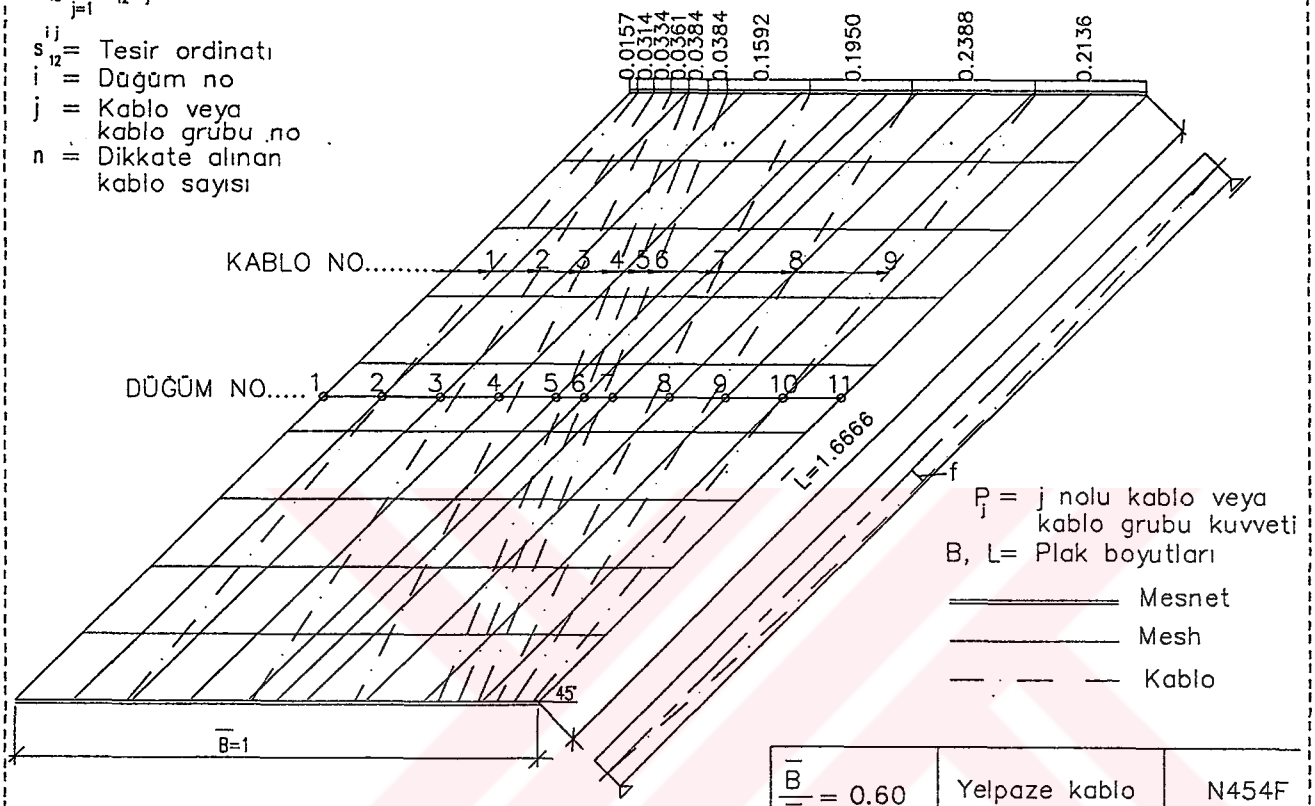
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.93160	-1.30415	-0.12368	0.23623	0.29375	0.35289	0.50601	0.65839	0.82051	-1.49170
2	-1.60753	-1.49053	-1.02118	-0.58914	-0.44103	-0.29288	0.00787	0.33086	0.63707	-4.46653
3	-1.55493	-1.59083	-1.56500	-1.26412	-1.08639	-0.90865	-0.49458	-0.08596	0.33749	-8.21298
4	-1.57859	-1.36169	-1.63415	-1.55483	-1.43947	-1.32424	-0.95909	-0.61246	-0.23826	-10.70283
5	-0.83152	-0.68641	-0.97701	-1.57201	-1.70953	-1.84710	-1.70187	-1.42662	-1.16997	-11.92200
6	-1.23155	-1.39922	-1.00933	-0.65105	-0.64999	-0.64918	-1.00637	-1.39362	-1.22714	-9.21745
7	-1.17347	-1.42988	-1.70072	-1.85087	-1.71208	-1.57355	-0.98156	-0.68436	-0.82816	-11.93475
8	-0.24108	-0.61358	-0.95918	-1.32439	-1.43859	-1.55288	-1.63540	-1.35894	-1.57321	-10.69740
9	0.33537	-0.08573	-0.49462	-0.90716	-1.08458	-1.26194	-1.56358	-1.58985	-1.54982	-8.20193
10	0.63563	0.33171	0.00772	-0.29075	-0.43936	-0.58784	-1.01777	-1.48966	-1.60379	-4.45408
11	0.82373	0.66419	0.50568	0.35357	0.29421	0.23654	-0.11929	-1.30460	-2.93610	-1.48205

N454F

s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N454F

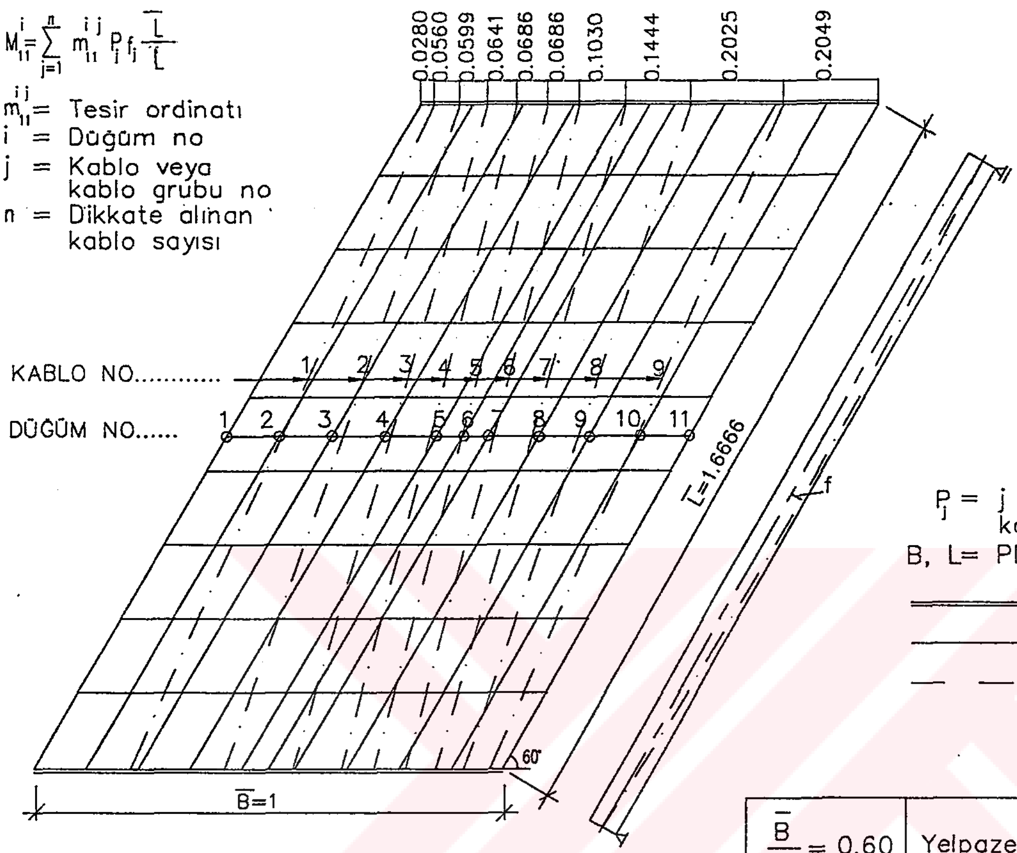
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.26550	-1.60185	-0.59797	0.00118	0.11638	0.23109	0.40866	0.57653	0.70253	-2.42890
2	-2.17702	-1.37703	-0.77108	-0.24861	-0.12329	0.00177	0.20710	0.40046	0.57709	-3.51065
3	-1.62967	-1.20762	-0.84491	-0.43924	-0.31641	-0.19373	-0.00091	0.19523	0.37272	-4.06453
4	-1.07541	-1.09358	-0.86754	-0.66805	-0.55505	-0.44214	-0.25879	-0.06601	0.11687	-4.90965
5	-0.91082	-1.09873	-0.99122	-0.70928	-0.61194	-0.51469	-0.38162	-0.26019	-0.12547	-5.60398
6	-0.42454	-0.55622	-0.86715	-1.07481	-1.07513	-1.07543	-0.86880	-0.55872	-0.42590	-6.92665
7	-0.12427	-0.25794	-0.38142	-0.51260	-0.61031	-0.70804	-0.98932	-1.09893	-0.91175	-5.59455
8	0.11797	-0.06365	-0.25799	-0.43935	-0.55302	-0.66672	-0.86680	-1.09401	-1.07749	-4.90108
9	0.37344	0.19708	-0.00003	-0.19068	-0.31421	-0.43784	-0.84370	-1.20638	-1.63172	-4.05400
10	0.57728	0.40141	0.20807	0.00437	-0.12119	-0.24695	-0.76843	-1.37499	-2.17873	-3.49915
11	0.70216	0.57647	0.40963	0.23354	0.11824	0.00258	-0.59369	-1.60035	-2.26570	-2.41710

N607F

m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N607F

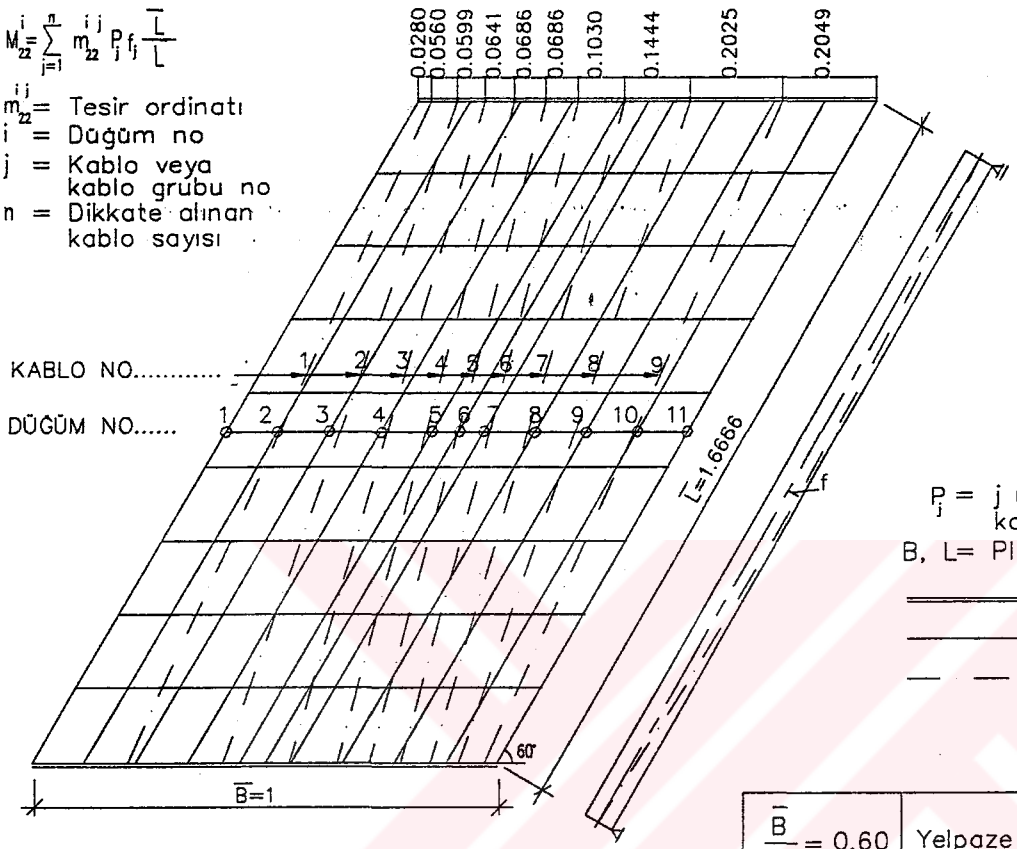
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.09285	-0.08658	-0.05578	-0.02307	0.00344	0.02701	0.05161	0.07642	0.10015	0.00035
2	-0.16924	-0.16090	-0.09060	-0.04413	-0.00750	0.02484	0.05803	0.09149	0.12336	-0.17464
3	-0.06570	-0.25256	-0.19754	-0.11553	-0.06118	-0.01353	0.03654	0.08749	0.13751	-0.44449
4	0.05748	-0.18124	-0.30179	-0.24914	-0.16053	-0.08258	-0.00749	0.07002	0.14858	-0.70668
5	0.11857	-0.04870	-0.21926	-0.31883	-0.28830	-0.20008	-0.08700	0.02697	0.14674	-0.86988
6	0.13436	-0.00842	-0.14427	-0.27954	-0.33078	-0.27484	-0.14346	-0.00763	0.13467	-0.91991
7	0.14648	0.02623	-0.08767	-0.20364	-0.28904	-0.31388	-0.21827	-0.04779	0.11894	-0.86864
8	0.14842	0.06940	-0.00796	-0.08488	-0.16150	-0.24686	-0.30156	-0.18046	0.05801	-0.70739
9	0.13743	0.08700	0.03623	-0.01474	-0.06174	-0.11504	-0.19814	-0.25303	-0.06494	-0.44697
10	0.12332	0.09108	0.05779	0.02433	-0.00796	-0.04449	-0.09106	-0.16182	-0.16893	-0.17776
11	0.10017	0.07614	0.05150	0.02680	0.00318	-0.02298	-0.05597	-0.08694	-0.09331	-0.00140

N607F

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N607F

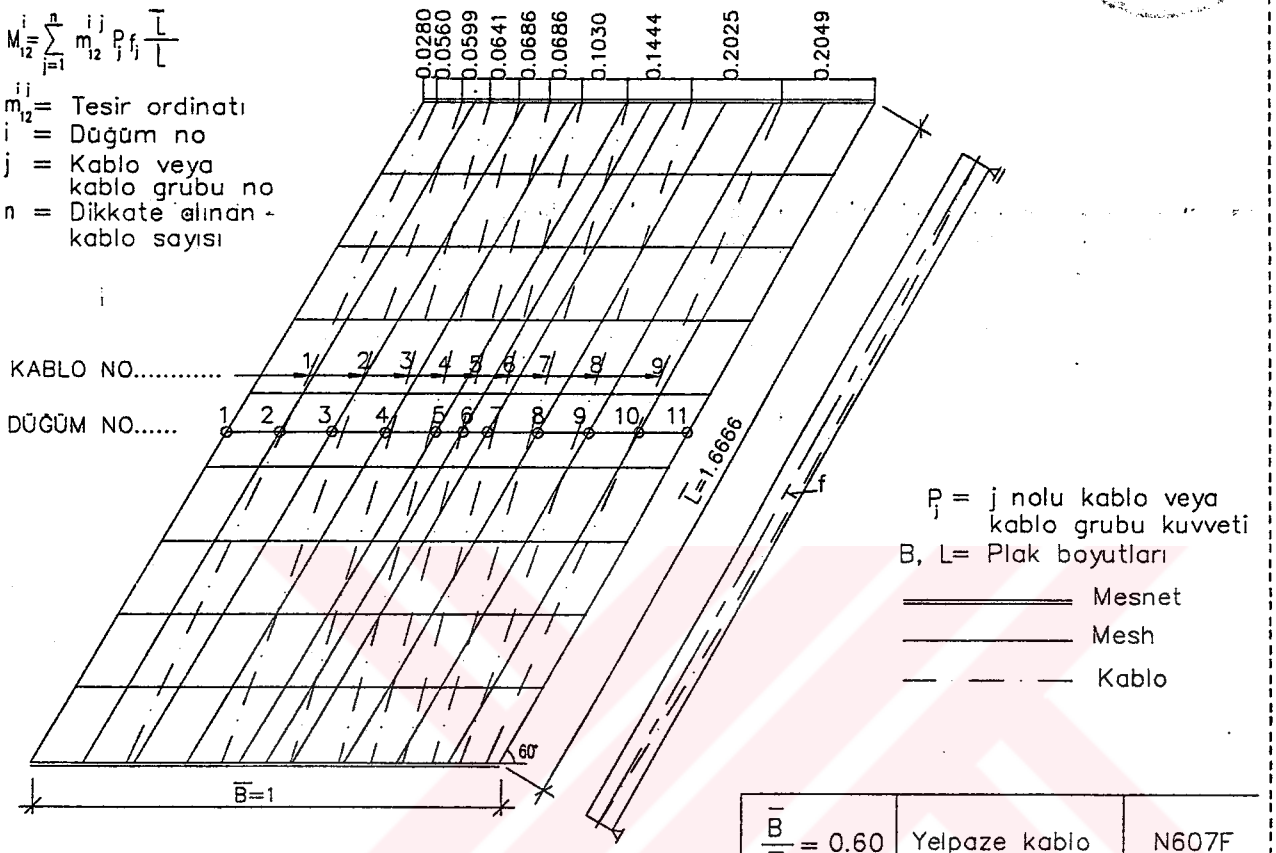
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.16415	-1.06020	-0.96512	-0.90387	-0.84322	-0.78865	-0.72634	-0.66368	-0.57985	-7.69510
2	-1.08765	-1.08342	-1.00975	-0.95351	-0.89681	-0.84423	-0.78309	-0.72095	-0.63562	-8.01497
3	-1.09560	-1.04542	-1.04639	-1.00713	-0.95363	-0.90451	-0.84697	-0.78775	-0.70300	-8.39040
4	-1.03445	-1.05208	-1.00662	-1.03302	-1.00434	-0.96355	-0.91297	-0.86019	-0.77957	-8.64680
5	-0.94686	-1.00907	-1.01880	-0.99280	-1.00639	-1.01236	-0.97720	-0.93715	-0.86619	-8.76680
6	-0.90832	-0.97118	-1.01115	-1.02226	-1.00102	-1.01372	-1.01068	-0.97260	-0.90745	-8.81840
7	-0.86700	-0.93577	-0.97763	-1.02204	-1.00610	-0.98386	-1.01872	-1.01056	-0.94594	-8.76763
8	-0.78032	-0.85898	-0.91345	-0.97297	-1.00477	-1.02327	-1.00641	-1.05410	-1.03340	-8.64767
9	-0.70368	-0.78670	-0.84743	-0.91364	-0.95419	-0.99767	-1.04627	-1.04713	-1.09455	-8.39123
10	-0.63623	-0.72002	-0.78351	-0.85259	-0.89737	-0.94462	-1.00988	-1.08558	-1.08640	-8.01618
11	-0.58019	-0.66260	-0.72644	-0.79591	-0.84347	-0.89550	-0.96486	-1.06210	-1.16175	-7.69290

N607F

m_{12} TESİR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Yelpaze kablo	N607F

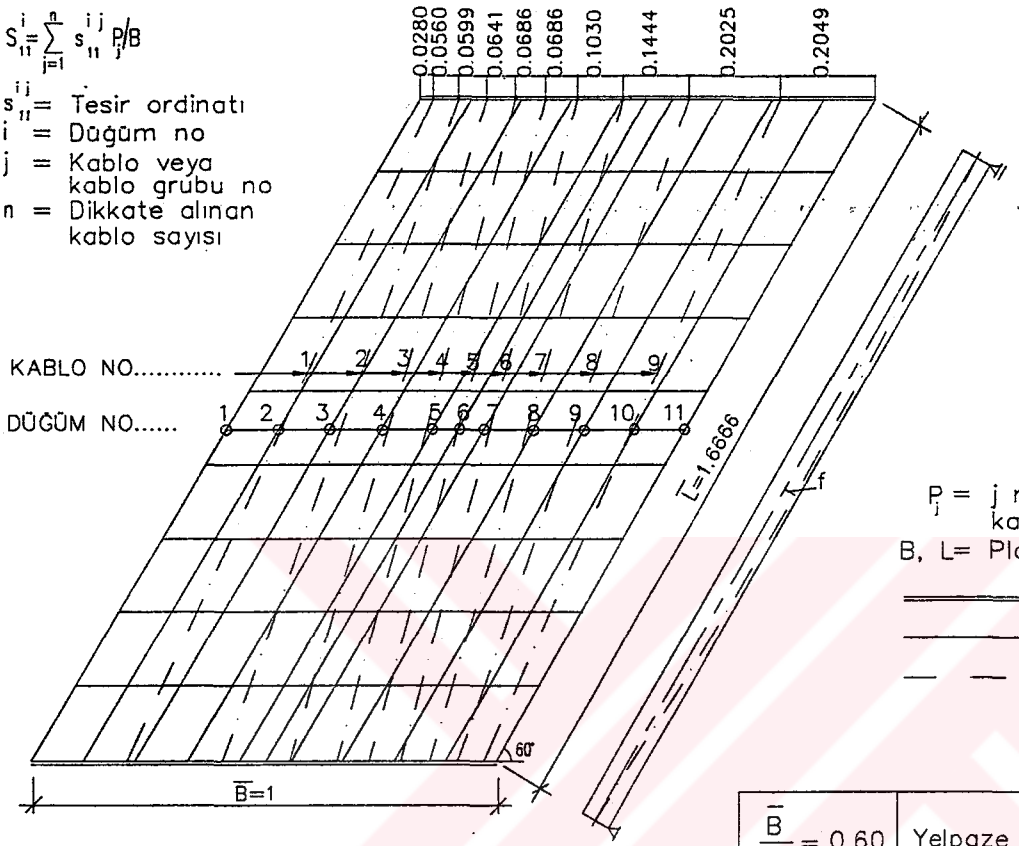
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.40819	-0.37054	-0.30951	-0.26169	-0.22149	-0.18586	-0.14729	-0.10881	-0.06567	-2.07900
2	-0.30460	-0.30304	-0.27555	-0.23999	-0.20896	-0.18091	-0.14943	-0.11832	-0.08209	-1.86290
3	-0.27052	-0.20494	-0.21041	-0.20336	-0.18413	-0.16746	-0.14669	-0.12708	-0.10201	-1.61658
4	-0.23909	-0.18049	-0.13395	-0.15191	-0.15198	-0.15350	-0.14441	-0.13848	-0.12698	-1.42080
5	-0.19843	-0.17172	-0.13483	-0.10299	-0.11713	-0.13460	-0.14276	-0.15195	-0.15658	-1.31098
6	-0.17634	-0.16045	-0.14313	-0.11419	-0.10697	-0.11345	-0.14333	-0.16089	-0.17651	-1.29528
7	-0.15647	-0.15159	-0.14262	-0.13532	-0.11691	-0.10135	-0.13509	-0.17229	-0.19867	-1.31030
8	-0.12694	-0.13825	-0.14440	-0.15421	-0.15209	-0.14882	-0.13400	-0.18124	-0.23946	-1.41940
9	-0.10204	-0.12697	-0.14678	-0.16864	-0.18444	-0.20011	-0.21045	-0.20543	-0.27096	-1.61580
10	-0.08217	-0.11828	-0.14959	-0.18260	-0.20933	-0.23723	-0.27572	-0.30387	-0.30471	-1.86350
11	-0.06576	-0.10881	-0.14745	-0.18782	-0.22187	-0.25940	-0.30970	-0.37164	-0.40768	-2.08015

N607F

s11 TESIR SAYILARI

$S_{11}^{ij} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N607F

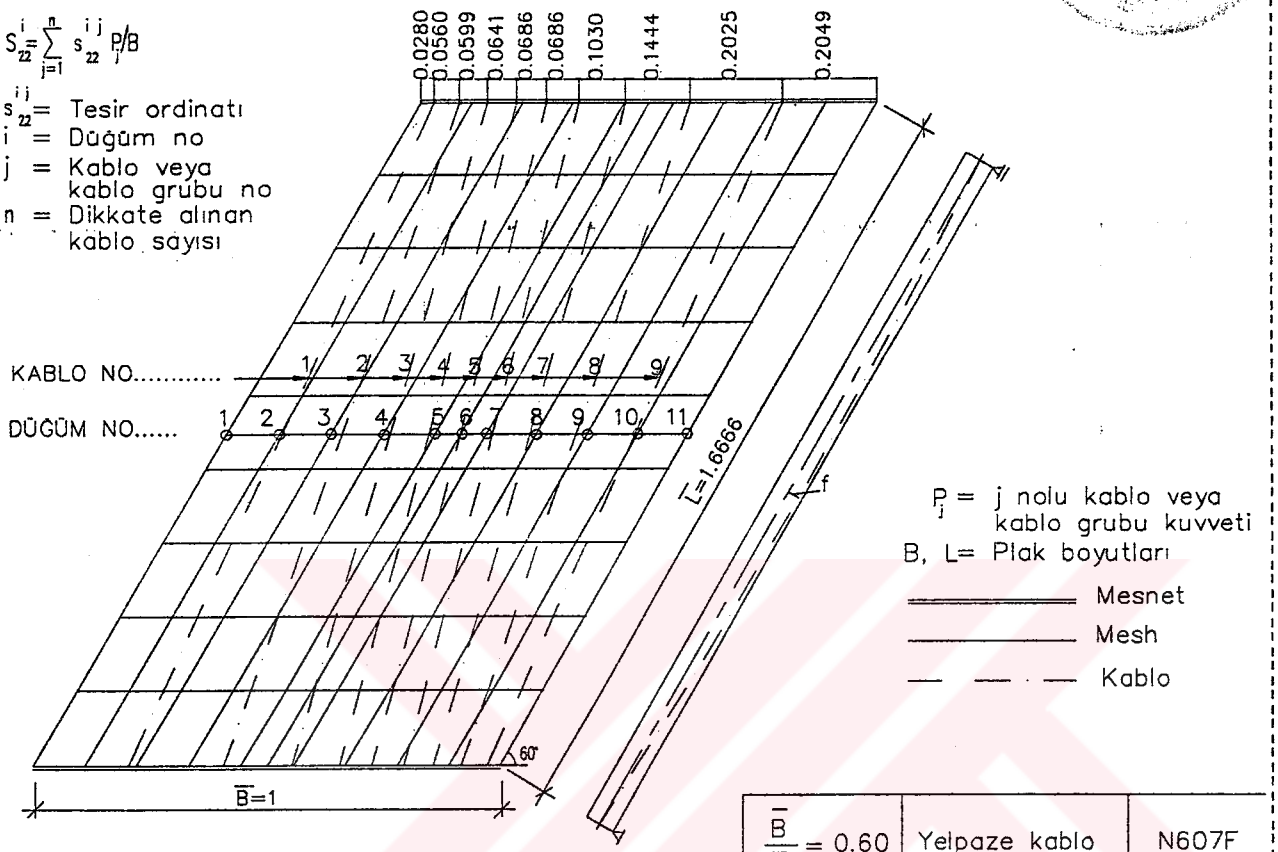
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.92869	-0.46117	-0.16200	-0.02932	0.03147	0.08090	0.12041	0.16609	0.22084	-0.96147
2	-0.75992	-0.40974	-0.15123	-0.03003	0.01767	0.05263	0.06916	0.08631	0.10254	-1.02260
3	-0.65558	-0.28416	-0.01316	0.09852	0.12012	0.12264	0.08086	0.02491	-0.05415	-0.56001
4	-0.50861	-0.14061	0.06196	0.15658	0.16569	0.15672	0.09085	-0.01110	-0.15819	-0.18670
5	-0.37645	-0.00507	0.21451	0.23345	0.20473	0.16366	0.06255	-0.08375	-0.27759	0.13603
6	-0.35397	-0.04720	0.18146	0.28361	0.29683	0.28362	0.18145	-0.04747	-0.35404	0.42430
7	-0.27762	-0.08358	0.06261	0.16378	0.20487	0.23359	0.21461	-0.00541	-0.37663	0.13623
8	-0.15817	-0.01087	0.09085	0.15674	0.16575	0.15667	0.06210	-0.14075	-0.50884	-0.18651
9	-0.05417	0.02522	0.08088	0.12268	0.12020	0.09862	-0.01304	-0.28428	-0.65581	-0.55970
10	0.10257	0.08710	0.06921	0.05267	0.01773	-0.02996	-0.15116	-0.40992	-0.76015	-1.02190
11	0.22094	0.16734	0.12048	0.08096	0.03153	-0.02928	-0.16198	-0.46144	-0.92890	-0.96037

N607F

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N607F

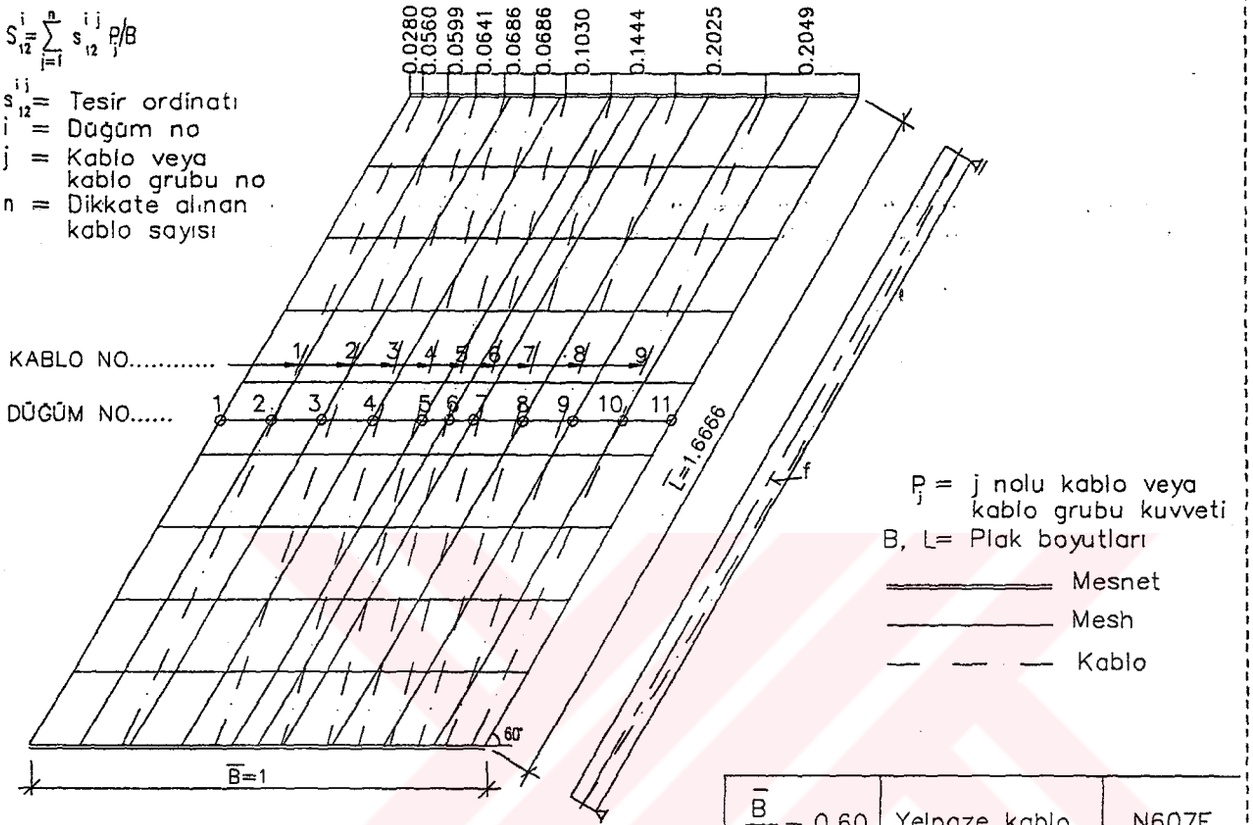
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.13455	-1.80960	-0.88165	-0.38117	-0.09686	0.15628	0.40576	0.69119	1.03171	-4.01895
2	-2.26668	-1.89323	-1.45968	-1.05364	-0.74294	-0.43767	-0.09934	0.27923	0.71670	-6.95728
3	-2.04238	-1.84815	-1.62775	-1.32265	-1.04600	-0.76991	-0.45068	-0.10147	0.31219	-8.89688
4	-1.74528	-1.56322	-1.53010	-1.39208	-1.22476	-1.05050	-0.81491	-0.53011	-0.18716	-10.03800
5	-1.10208	-1.10217	-1.07283	-1.27863	-1.33195	-1.34890	-1.25273	-1.10004	-0.87685	-10.46588
6	-1.03952	-1.16431	-1.16909	-1.04683	-1.02428	-1.04701	-1.16944	-1.16475	-1.04060	-9.86585
7	-0.87586	-1.09943	-1.25214	-1.34855	-1.33175	-1.27863	-1.07308	-1.10279	-1.10315	-10.46538
8	-0.18630	-0.52953	-0.81438	-1.05009	-1.22449	-1.39183	-1.52988	-1.56355	-1.74671	-10.03655
9	0.31297	-0.10092	-0.45013	-0.76942	-1.04570	-1.32241	-1.62768	-1.84850	-2.04398	-8.89573
10	0.71723	0.27980	-0.09882	-0.43719	-0.74253	-1.05330	-1.45955	-1.89365	-2.26811	-6.95605
11	1.03192	0.69210	0.40624	0.15695	-0.09626	-0.38065	-0.88118	-1.81015	-3.13535	-4.01635

N607F

s_{12} TESİR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Yelpaze kablo	N607F

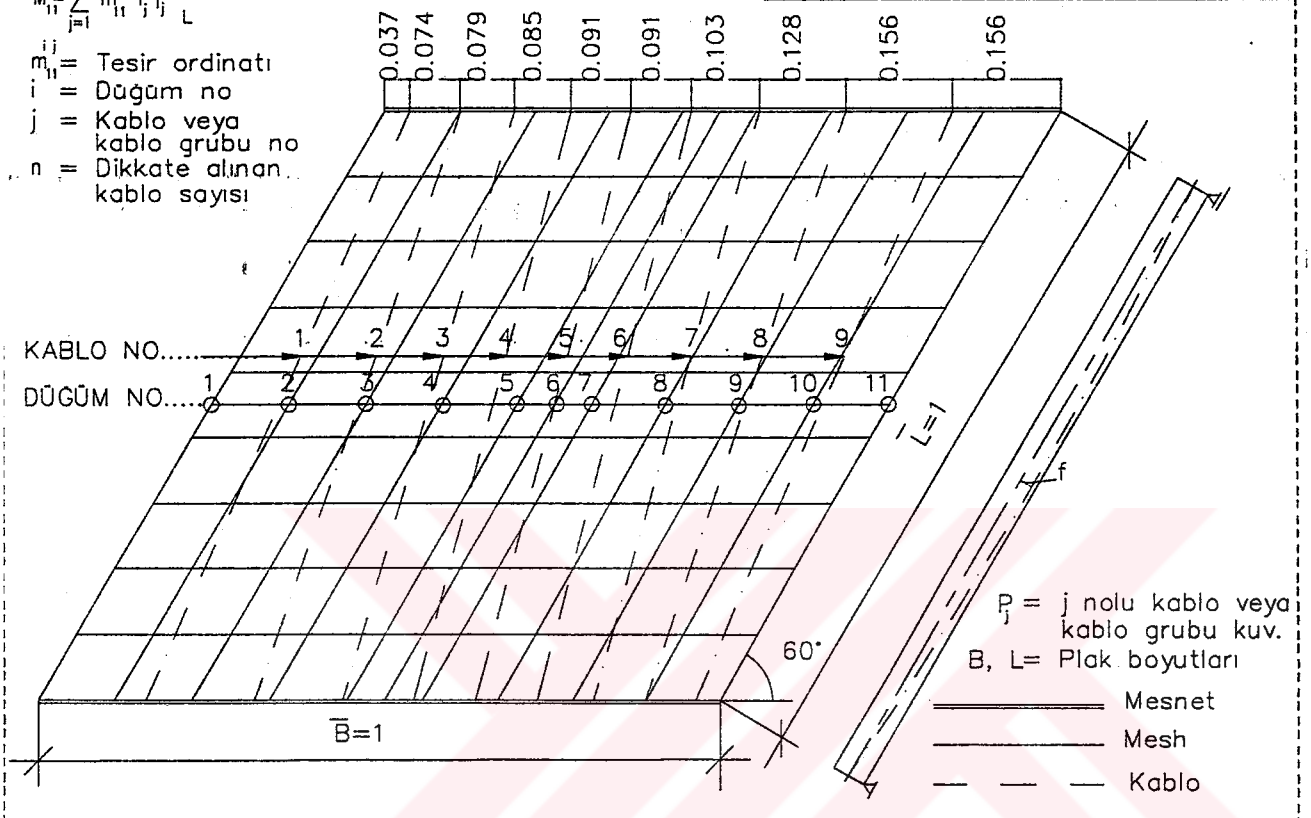
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.50243	-1.26155	-0.82951	-0.50250	-0.27849	-0.06722	0.13390	0.35851	0.59750	-3.35180
2	-1.53374	-0.94605	-0.54349	-0.29917	-0.14887	-0.01386	0.10306	0.22817	0.36032	-2.79365
3	-1.06632	-0.71212	-0.47335	-0.32879	-0.22435	-0.11874	-0.01575	0.09650	0.20342	-2.63947
4	-0.64127	-0.62187	-0.45962	-0.36965	-0.29758	-0.21534	-0.11935	-0.02447	0.06474	-2.68440
5	-0.47504	-0.56029	-0.61397	-0.43266	-0.33162	-0.23529	-0.16179	-0.07229	-0.00058	-2.88353
6	-0.18766	-0.27405	-0.39431	-0.55593	-0.58481	-0.55584	-0.39403	-0.27357	-0.18676	-3.40693
7	-0.00134	-0.07283	-0.16232	-0.23567	-0.33185	-0.43272	-0.61387	-0.55977	-0.47390	-2.88428
8	0.06403	-0.02501	-0.11982	-0.21569	-0.29787	-0.36989	-0.45978	-0.62163	-0.63986	-2.68550
9	0.20275	0.09596	-0.01622	-0.11912	-0.22465	-0.32900	-0.47350	-0.71189	-1.06464	-2.64030
10	0.35980	0.22754	0.10263	-0.01425	-0.14919	-0.29939	-0.54359	-0.94584	-1.53209	-2.79435
11	0.59678	0.35776	0.13343	-0.06761	-0.27872	-0.50251	-0.82931	-1.26075	-1.50013	-3.35105

N608F — m11 TESIR SAYILARI

$\bar{B}/\bar{L} = 1$ | Yelpaze kablo | N608F

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

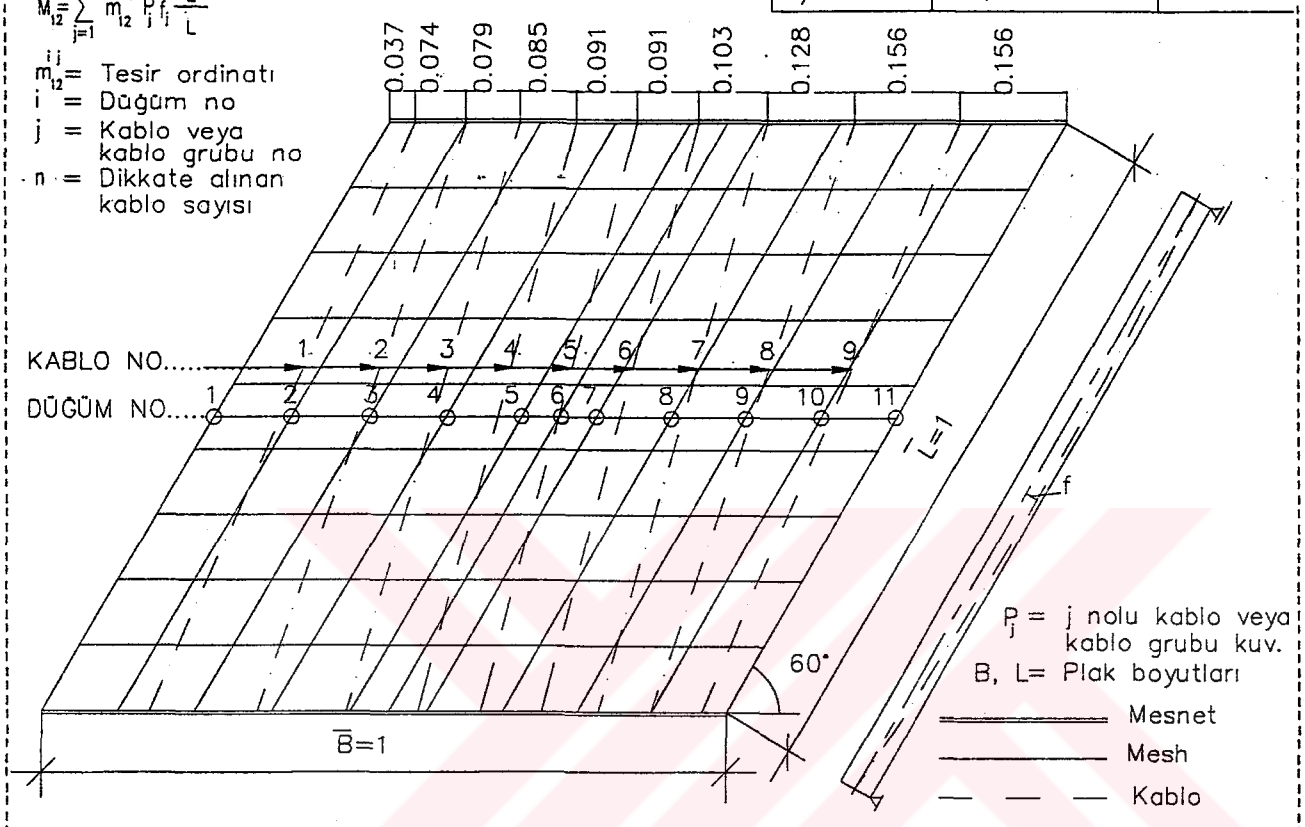
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.18119	-0.10084	-0.03636	0.01189	0.04089	0.05589	0.06566	0.06980	0.06949	-0.00476
2	-0.33923	-0.29411	-0.12046	-0.02094	0.03512	0.06549	0.08488	0.09453	0.09688	-0.39784
3	0.00678	-0.55254	-0.41070	-0.18247	-0.04674	0.02889	0.08297	0.11608	0.13536	-0.82237
4	0.19326	-0.21145	-0.65103	-0.52751	-0.24920	-0.07433	0.04650	0.12775	0.18399	-1.16203
5	0.23678	0.01126	-0.29810	-0.65845	-0.59481	-0.29408	-0.07044	0.09739	0.22495	-1.34550
6	0.23332	0.05731	-0.16368	-0.47234	-0.65939	-0.44848	-0.16299	0.05742	0.23548	-1.32335
7	0.22328	0.09643	-0.07092	-0.29440	-0.59651	-0.59351	-0.29702	0.00973	0.23947	-1.28348
8	0.18307	0.12625	0.04632	-0.06981	-0.25016	-0.49405	-0.65000	-0.21410	0.19731	-1.12518
9	0.13487	0.11474	0.08292	0.03179	-0.04711	-0.18920	-0.41162	-0.54207	0.01233	-0.81336
10	0.09664	0.09346	0.08489	0.06741	0.03496	-0.02522	-0.12081	-0.29848	-0.33568	-0.40281
11	0.06933	0.06903	0.06568	0.05718	0.04082	0.01192	-0.03651	-0.10201	-0.18369	-0.00825

N608F — m12 TESIR SAYILARI

$\overline{B}/\overline{L}=1$ | Yelpaze kablo | N608F

$$M_{12}=\sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\overline{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

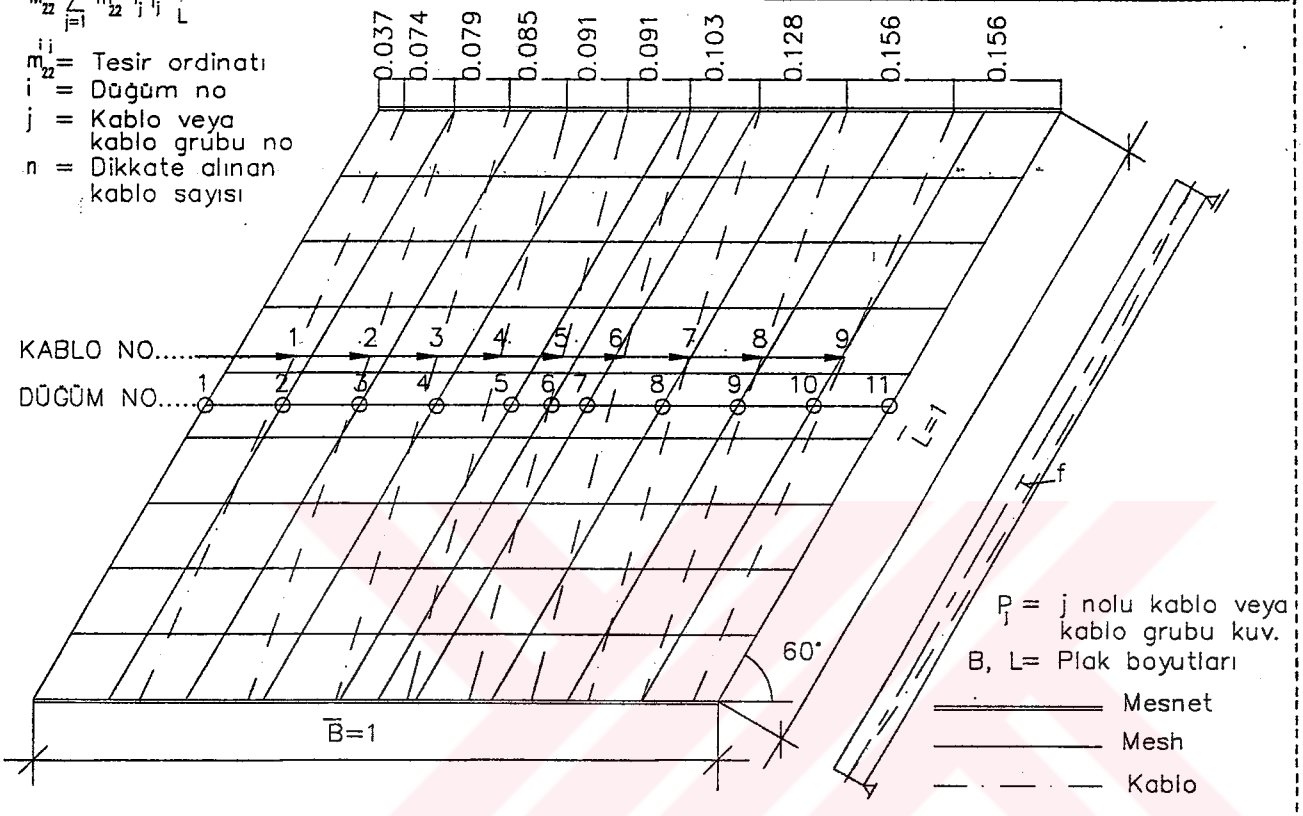
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.59901	-0.45376	-0.31512	-0.21185	-0.14018	-0.08950	-0.05471	-0.02853	-0.00630	-1.89895
2	-0.36176	-0.32004	-0.25282	-0.18425	-0.13063	-0.08972	-0.05982	-0.03704	-0.01670	-1.45278
3	-0.28342	-0.11530	-0.13682	-0.12723	-0.10616	-0.08220	-0.06115	-0.04467	-0.02820	-0.98515
4	-0.18790	-0.12000	-0.00370	-0.03922	-0.06717	-0.07074	-0.06300	-0.05477	-0.04283	-0.64933
5	-0.11355	-0.09556	-0.05364	0.02861	0.00562	-0.04507	-0.06283	-0.06844	-0.06411	-0.46896
6	-0.08384	-0.07815	-0.06431	-0.01429	0.00684	-0.01146	-0.06438	-0.07988	-0.08408	-0.47355
7	-0.06400	-0.06709	-0.06278	-0.04759	0.00628	0.02723	-0.05380	-0.09712	-0.11403	-0.47290
8	-0.04284	-0.05391	-0.06300	-0.07039	-0.06699	-0.02380	-0.00409	-0.11946	-0.18907	-0.63355
9	-0.02828	-0.04410	-0.06118	-0.08224	-0.10619	-0.11814	-0.13666	-0.11692	-0.28581	-0.97953
10	-0.01684	-0.03663	-0.05988	-0.09058	-0.13076	-0.18141	-0.25288	-0.31992	-0.36618	-1.45505
11	-0.00648	-0.02825	-0.05478	-0.09065	-0.14037	-0.21016	-0.31525	-0.45917	-0.60366	-1.90880

N608F — m22 TESIR SAYILARI

$\bar{B}/\bar{L}=1$ | Yelpaze kablo | N608F

$$M_{22}=\sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



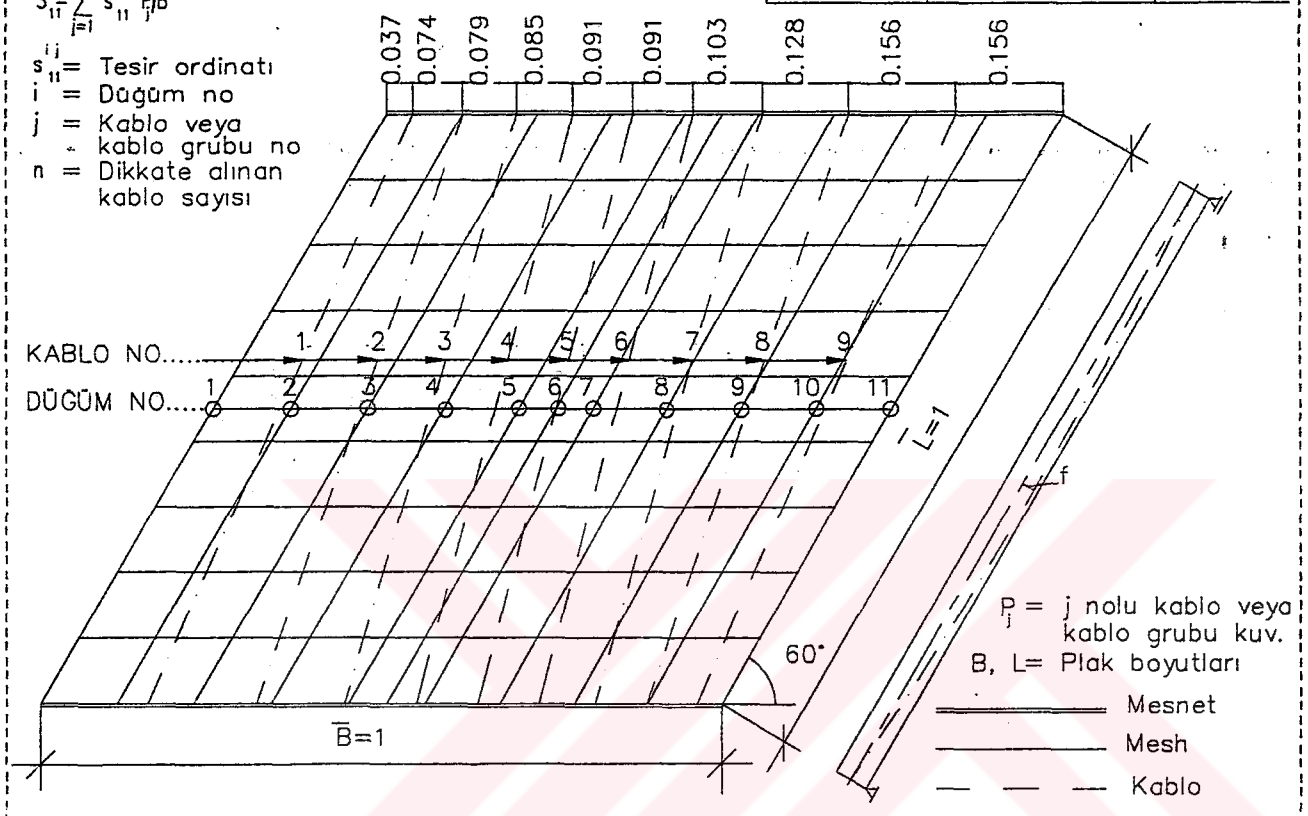
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.66080	-1.36795	-1.10455	-0.88741	-0.71357	-0.56784	-0.46690	-0.37652	-0.28545	-7.43095
2	-1.52810	-1.42318	-1.19703	-0.98716	-0.80989	-0.65395	-0.54587	-0.44580	-0.34325	-7.93420
3	-1.42573	-1.34658	-1.26588	-1.10273	-0.92785	-0.76472	-0.65464	-0.54578	-0.43057	-8.46448
4	-1.16460	-1.26208	-1.19753	-1.16213	-1.05808	-0.88706	-0.79037	-0.67787	-0.55207	-8.75172
5	-0.91775	-1.03268	-1.13523	-1.11275	-1.09775	-1.00159	-0.94859	-0.84676	-0.71782	-8.81098
6	-0.81515	-0.93247	-1.03870	-1.12675	-1.12665	-1.04205	-1.03798	-0.94163	-0.81601	-8.87740
7	-0.71723	-0.83806	-0.94928	-1.06183	-1.09765	-1.03260	-1.13460	-1.04168	-0.91892	-8.79185
8	-0.55186	-0.67071	-0.79101	-0.91767	-1.05888	-1.07332	-1.19735	-1.26503	-1.16680	-8.69260
9	-0.43056	-0.53998	-0.65520	-0.78381	-0.92851	-1.05046	-1.26565	-1.34920	-1.42963	-8.43302
10	-0.34334	-0.44108	-0.54634	-0.66778	-0.81051	-0.96049	-1.19725	-1.42602	-1.53480	-7.92763
11	-0.28558	-0.37254	-0.46731	-0.57891	-0.71414	-0.87020	-1.10455	-1.38100	-1.66730	-7.44155

N608F — s11 TESIR SAYILARI

$\bar{B}/\bar{L}=1$ | Yelpaze kablo | N608F

$S_{11}^{i}=\sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.26750	-0.35354	0.18667	0.23273	0.14109	0.06288	0.01964	-0.00225	-0.01541	-0.99570
2	-1.02630	-0.27373	0.14357	0.18062	0.10136	0.02293	-0.02630	-0.05272	-0.07051	-1.00107
3	-0.85256	-0.10949	0.27093	0.30733	0.19570	0.05650	-0.06151	-0.15442	-0.23026	-0.57779
4	-0.73658	-0.09637	0.28034	0.40003	0.32731	0.16713	-0.01895	-0.21350	-0.40292	-0.29351
5	-0.69683	-0.09813	0.26028	0.43894	0.44972	0.32735	0.09271	-0.23797	-0.60379	-0.06771
6	-0.69728	-0.14096	0.21739	0.40875	0.45905	0.40875	0.22058	-0.14159	-0.69741	0.03727
7	-0.60369	-0.23732	0.08951	0.32735	0.44972	0.43894	0.26316	-0.09853	-0.69692	-0.06777
8	-0.40286	-0.21301	-0.02086	0.16713	0.32731	0.40003	0.28316	-0.09651	-0.73662	-0.29223
9	-0.23023	-0.15408	-0.06244	0.05650	0.19570	0.30733	0.27356	-0.10928	-0.85256	-0.57550
10	-0.07047	-0.05177	-0.02653	0.02293	0.10136	0.18062	0.14661	-0.27394	-1.02629	-0.99748
11	-0.01541	-0.00232	0.01939	0.06288	0.14109	0.23273	0.19084	-0.35241	-1.26750	-0.99069

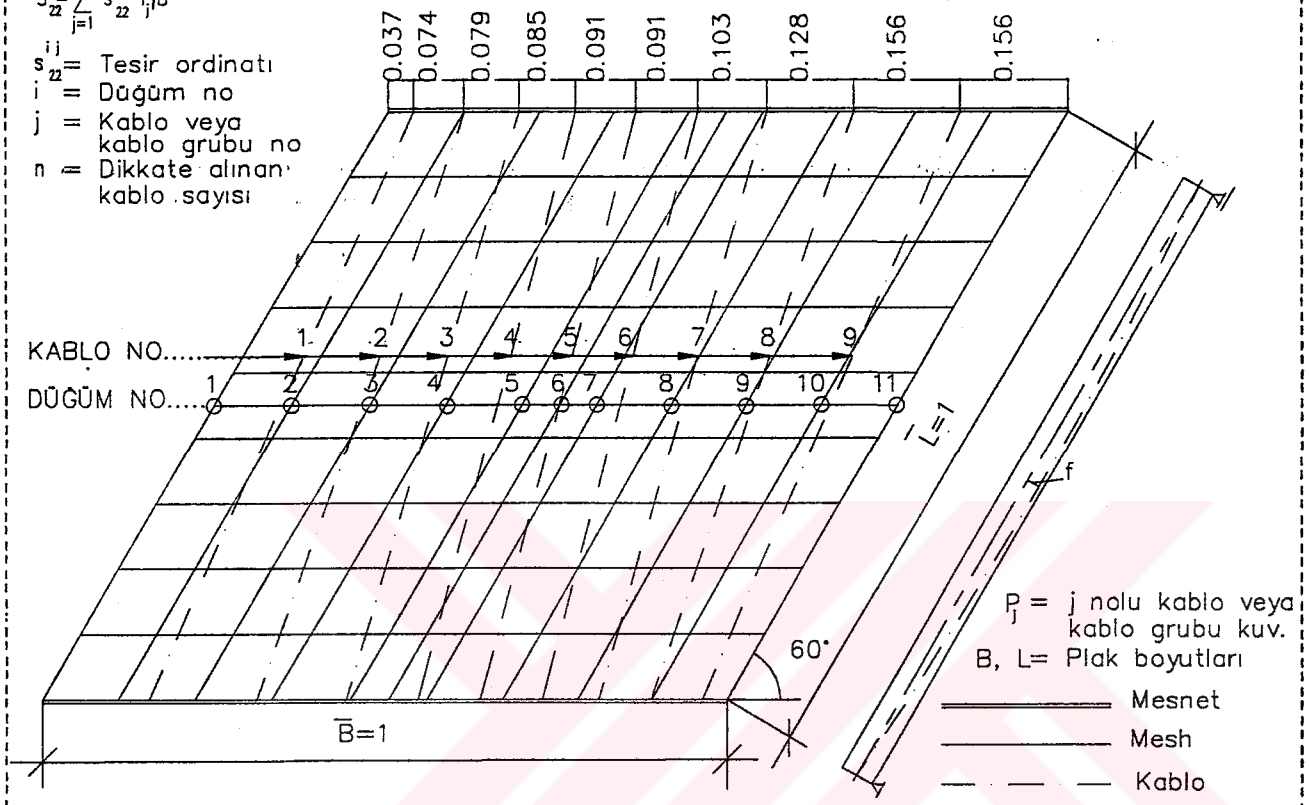
N608F

s22 TESIR SAYILARI

$\bar{B}/\bar{L} = 1$ | Yelpaze kablo | N608F

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

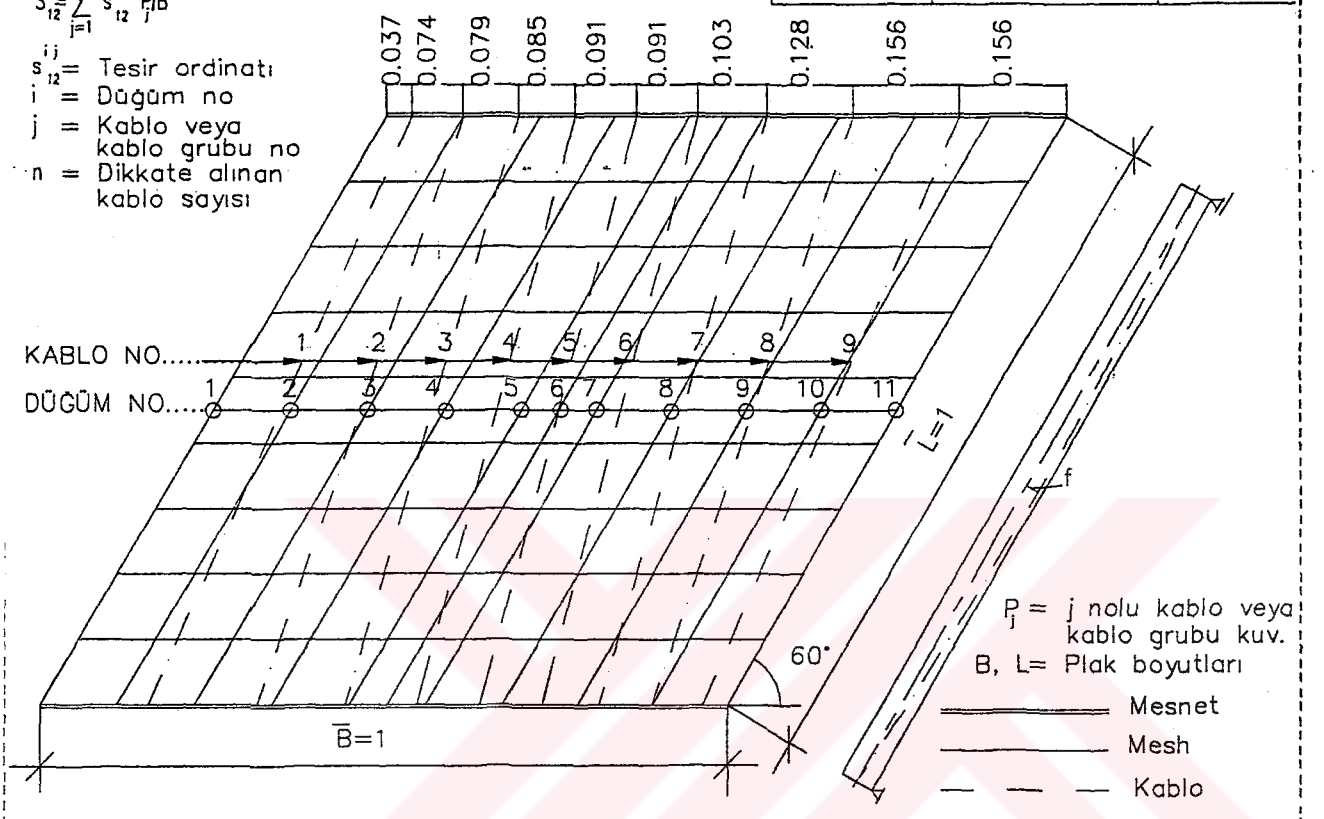
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-4.04255	-1.95835	-0.28262	0.43242	0.46293	0.35588	0.25731	0.21516	0.19964	-4.36020
2	-2.87840	-2.28568	-1.50453	-0.69606	-0.22742	0.01371	0.12928	0.21923	0.32538	-6.90448
3	-2.27493	-2.14715	-1.93458	-1.42252	-0.83563	-0.39296	-0.10288	0.10503	0.29331	-8.71230
4	-1.49129	-1.77952	-1.90825	-1.83435	-1.45216	-0.97808	-0.52898	-0.13366	0.18108	-9.92523
5	-0.56857	-1.28183	-1.70293	-1.92888	-1.80763	-1.46683	-1.01573	-0.51558	-0.14904	-10.43697
6	-0.20960	-0.72983	-1.35935	-1.91335	-2.15780	-1.91335	-1.36565	-0.72959	-0.20950	-10.58800
7	-0.14906	-0.51559	-1.01083	-1.46683	-1.80763	-1.92888	-1.70655	-1.28102	-0.56837	-10.43470
8	0.18100	-0.13430	-0.52501	-0.97808	-1.45216	-1.83435	-1.90843	-1.77908	-1.49130	-9.92170
9	0.29324	0.10406	-0.10090	-0.39296	-0.83563	-1.42252	-1.93133	-2.14615	-2.27503	-8.70723
10	0.32540	0.22005	0.13014	0.01371	-0.22742	-0.69607	-1.49673	-2.28550	-2.87850	-6.89493
11	0.19936	0.20771	0.25637	0.35588	0.46293	0.43242	-0.26787	-1.94775	-4.04230	-4.34325

N608F — s12 TESIR SAYILARI

$\bar{B}/\bar{L}=1$ | Yelpaze kablo | N608F

$$S_{t2}^{ij} = \sum_{j=1}^{n} s_{t2}^{ij} P_j/B$$

s_{t2}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



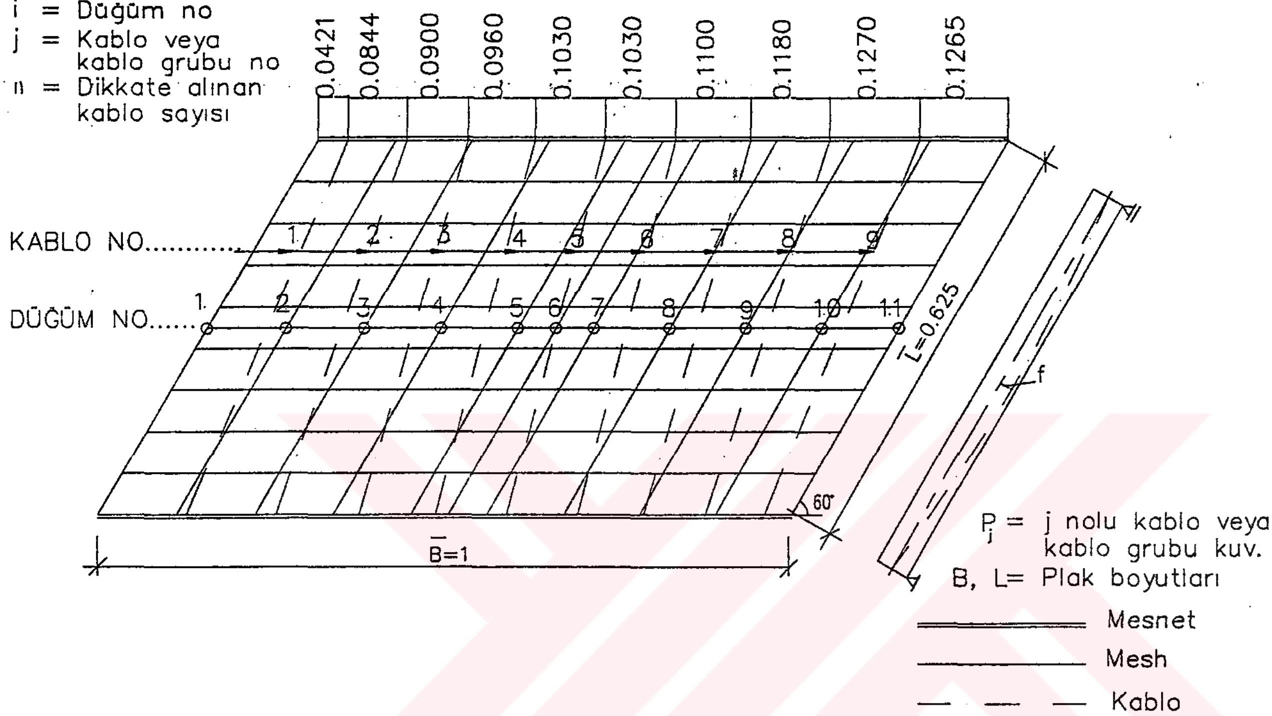
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.06490	-1.03620	-0.51477	-0.19458	0.06000	0.19299	0.22267	0.19230	0.19424	-2.94825
2	-1.76832	-0.87093	-0.35576	-0.14357	-0.00148	0.08160	0.10750	0.08792	0.07640	-2.78663
3	-0.92571	-0.78379	-0.56410	-0.35592	-0.20816	-0.07432	0.01718	0.04882	0.06713	-2.77885
4	-0.20803	-0.53281	-0.70615	-0.64963	-0.48403	-0.26008	-0.06689	0.04493	0.11607	-2.74660
5	0.09130	-0.18479	-0.51379	-0.70535	-0.75841	-0.61496	-0.34043	-0.03213	0.25046	-2.80813
6	0.15521	-0.24651	-0.46512	-0.56341	-0.56956	-0.56341	-0.46751	-0.24707	0.15533	-2.81205
7	0.25038	-0.03150	-0.33687	-0.61496	-0.75841	-0.70535	-0.51762	-0.18578	0.09133	-2.80880
8	0.11611	0.04647	-0.06557	-0.26008	-0.48403	-0.64963	-0.70865	-0.53365	-0.20792	-2.74693
9	0.06722	0.05131	0.01766	-0.07432	-0.20816	-0.35592	-0.56288	-0.78533	-0.92567	-2.77608
10	0.07645	0.08929	0.10736	0.08160	-0.00148	-0.14357	-0.35166	-0.87126	-1.76839	-2.78167
11	0.19443	0.19713	0.22256	0.19299	0.06000	-0.19458	-0.51064	-1.03978	-2.06505	-2.94300

I609F **m11 TESIR SAYILARI**

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N609F

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



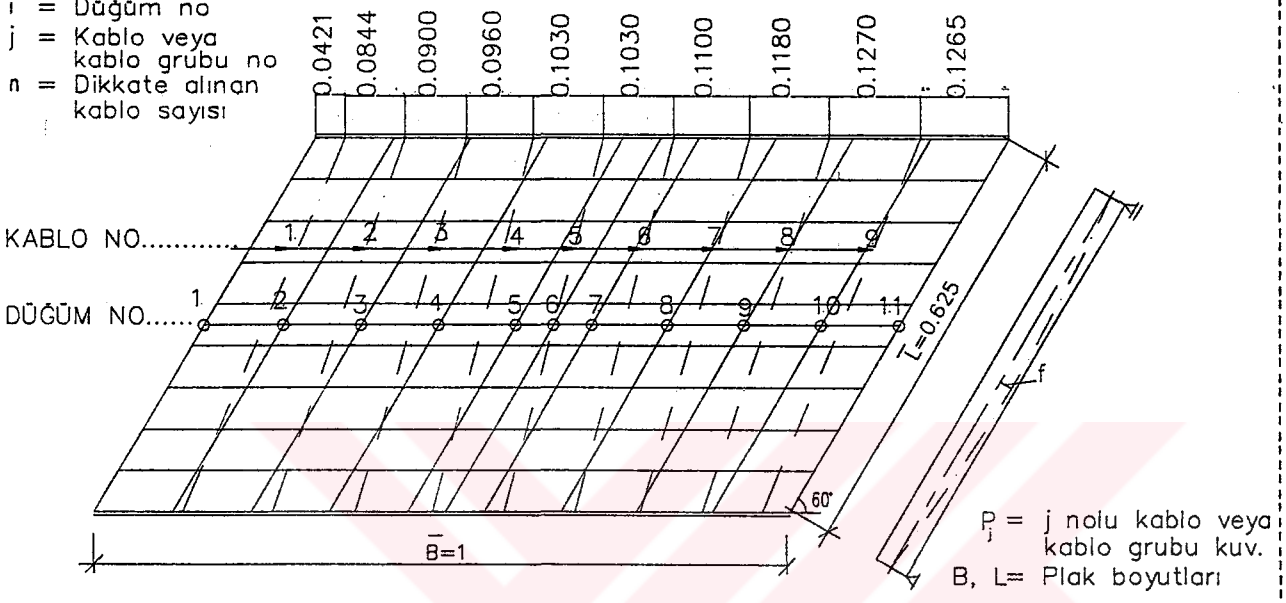
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.21685	-0.05918	0.03253	0.06203	0.06210	0.05080	0.03805	0.02774	0.02034	0.01756
2	-0.49095	-0.52803	-0.07645	0.07384	0.10092	0.09110	0.07144	0.05377	0.04055	-0.66381
3	0.18755	-0.88621	-0.75572	-0.14791	0.06966	0.11788	0.11351	0.09546	0.07838	-1.12740
4	0.32528	-0.13633	-1.01660	-0.89035	-0.18489	0.06695	0.13573	0.14172	0.13210	-1.42638
5	0.28345	0.12995	-0.21256	-0.99795	-0.93639	-0.23119	0.05825	0.16352	0.19889	-1.54403
6	0.24295	0.15276	-0.04185	-0.54370	-0.98863	-0.55020	-0.04373	0.15200	0.23741	-1.38298
7	0.20309	0.16385	0.05925	-0.22749	-0.93664	-1.00666	-0.21549	0.12881	0.27636	-1.55493
8	0.13448	0.14172	0.13595	0.06785	-0.18473	-0.88451	-1.02310	-0.13985	0.31352	-1.43870
9	0.07964	0.09537	0.11349	0.11777	0.06974	-0.14503	-0.74871	-0.89400	0.16935	-1.14235
10	0.04116	0.05370	0.07137	0.09078	0.10090	0.07448	-0.07414	-0.52321	-0.51470	-0.67967
11	0.02063	0.02770	0.03800	0.05061	0.06213	0.06235	0.03317	-0.05786	-0.24930	-0.01258

N609F — m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N609F



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

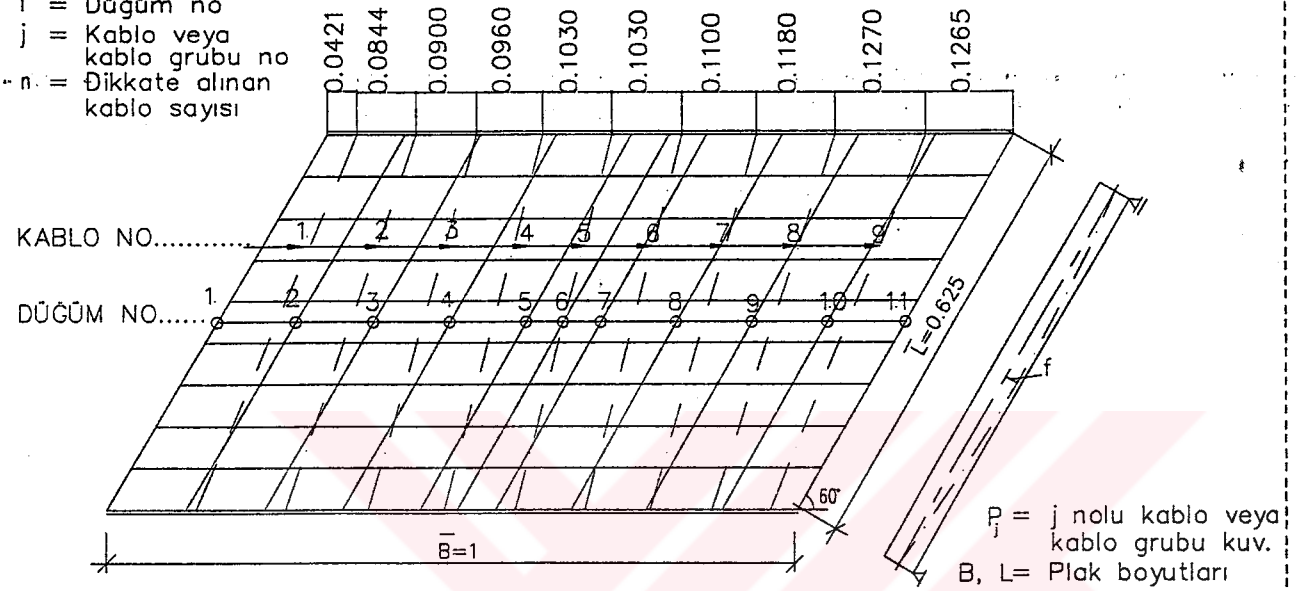
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.59160	-1.82255	-1.18890	-0.75930	-0.46965	-0.29332	-0.18228	-0.11427	-0.07155	-7.49340
2	-2.30300	-1.92010	-1.43105	-0.95837	-0.61583	-0.39407	-0.24998	-0.15972	-0.10230	-8.13443
3	-1.80468	-1.78218	-1.60675	-1.24945	-0.84637	-0.56670	-0.37089	-0.24381	-0.16124	-8.63205
4	-1.17360	-1.41685	-1.53678	-1.45975	-1.17822	-0.82633	-0.56468	-0.38397	-0.26336	-8.80353
5	-0.73019	-0.94178	-1.25768	-1.42360	-1.38165	-1.16633	-0.85287	-0.61027	-0.43802	-8.80240
6	-0.57258	-0.76239	-1.03253	-1.34773	-1.45998	-1.35185	-1.03343	-0.76331	-0.56426	-8.88810
7	-0.44433	-0.60948	-0.85195	-1.16195	-1.38170	-1.42615	-1.25883	-0.94278	-0.71915	-8.79635
8	-0.26693	-0.38337	-0.56392	-0.82274	-1.17848	-1.46030	-1.53605	-1.41783	-1.15423	-8.78387
9	-0.16332	-0.24338	-0.37031	-0.56395	-0.84638	-1.24755	-1.60310	-1.78135	-1.77110	-8.59052
10	-0.10358	-0.15944	-0.24960	-0.39213	-0.61595	-0.95676	-1.42520	-1.91623	-2.25125	-8.07010
11	-0.07229	-0.11387	-0.18167	-0.29130	-0.46886	-0.75626	-1.18110	-1.81045	-2.51535	-7.39110

N609F — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\overline{L}}{L}$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\overline{B}}{\overline{L}} = 1.6$	Yelpaze kablo	N609F



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

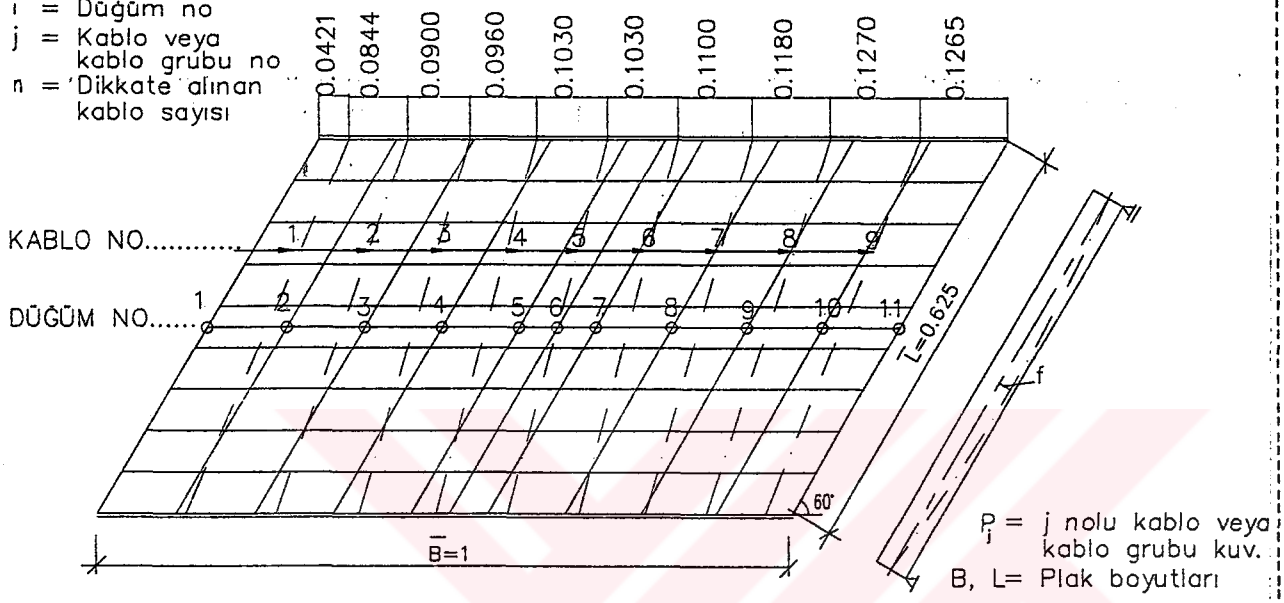
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.86222	-0.52902	-0.25888	-0.11464	-0.04509	-0.01531	-0.00284	0.00218	0.00437	-1.82145
2	-0.39953	-0.29481	-0.21578	-0.11735	-0.05641	-0.02606	-0.01151	-0.00454	-0.00086	-1.12685
3	-0.24399	-0.01054	-0.04887	-0.08921	-0.06076	-0.03328	-0.01741	-0.00912	-0.00439	-0.51757
4	-0.10662	-0.07427	0.07755	0.03781	-0.05153	-0.04244	-0.02497	-0.01350	-0.00641	-0.20438
5	-0.04004	-0.05481	-0.04281	0.08211	0.05859	-0.04187	-0.03786	-0.02386	-0.01159	-0.11215
6	-0.02009	-0.03588	-0.04834	-0.00883	0.01872	-0.00755	-0.04824	-0.03597	-0.02042	-0.20660
7	-0.01115	-0.02346	-0.03755	-0.04164	0.05879	0.08414	-0.04229	-0.05438	-0.03993	-0.10746
8	-0.00635	-0.01344	-0.02501	-0.04231	-0.05171	0.03566	0.07798	-0.07442	-0.10733	-0.20691
9	-0.00437	-0.00906	-0.01737	-0.03304	-0.06073	-0.08935	-0.05077	-0.01026	-0.24530	-0.52024
10	-0.00080	-0.00449	-0.01144	-0.02582	-0.05636	-0.11679	-0.21439	-0.29561	-0.40256	-1.12823
11	0.00449	0.00221	-0.00277	-0.01509	-0.04498	-0.11376	-0.25630	-0.52481	-0.86268	-1.81370

N609F — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

$\frac{B}{L} = 1.6$	Yelpaze kablo	N609F

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

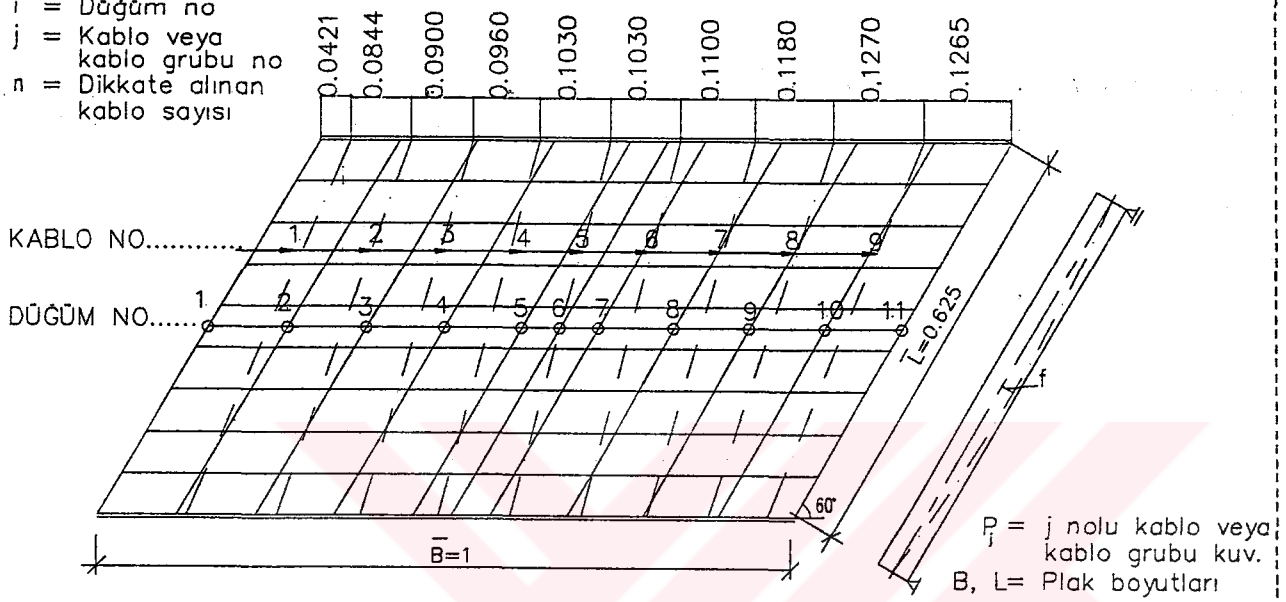
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.47345	0.08984	0.37318	0.15219	0.01778	-0.03346	-0.01764	-0.01597	-0.01105	-0.91855
2	-1.15272	0.06497	0.30505	0.08461	-0.07572	-0.08472	-0.05085	-0.02880	-0.01534	-0.95353
3	-0.90519	0.18002	0.45356	0.19268	-0.10562	-0.18520	-0.14079	-0.08142	-0.04907	-0.64104
4	-0.79139	-0.02187	0.41406	0.39564	0.10700	-0.14184	-0.22706	-0.18111	-0.14015	-0.58673
5	-0.63439	-0.22302	0.20078	0.43865	0.35581	0.07789	-0.20532	-0.28609	-0.30917	-0.58487
6	-0.47575	-0.31563	-0.04900	0.31091	0.45903	0.31982	-0.04238	-0.31326	-0.47511	-0.58135
7	-0.30908	-0.28653	-0.20941	0.07100	0.35336	0.44426	0.20921	-0.21803	-0.63196	-0.57718
8	-0.13960	-0.18077	-0.22987	-0.14505	0.10293	0.39302	0.42145	-0.01256	-0.78563	-0.57608
9	-0.04871	-0.08103	-0.14342	-0.18525	-0.10772	0.18582	0.45570	0.19053	-0.89590	-0.62998
10	-0.01537	-0.02899	-0.06007	-0.08459	-0.07639	0.07995	0.30318	0.07427	-1.14079	-0.94881
11	-0.01093	-0.01583	-0.03428	-0.03355	0.01659	0.14814	0.36829	0.09838	-1.45585	-0.91905

609F — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1.6$	Yelpaze kablo	N609F



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

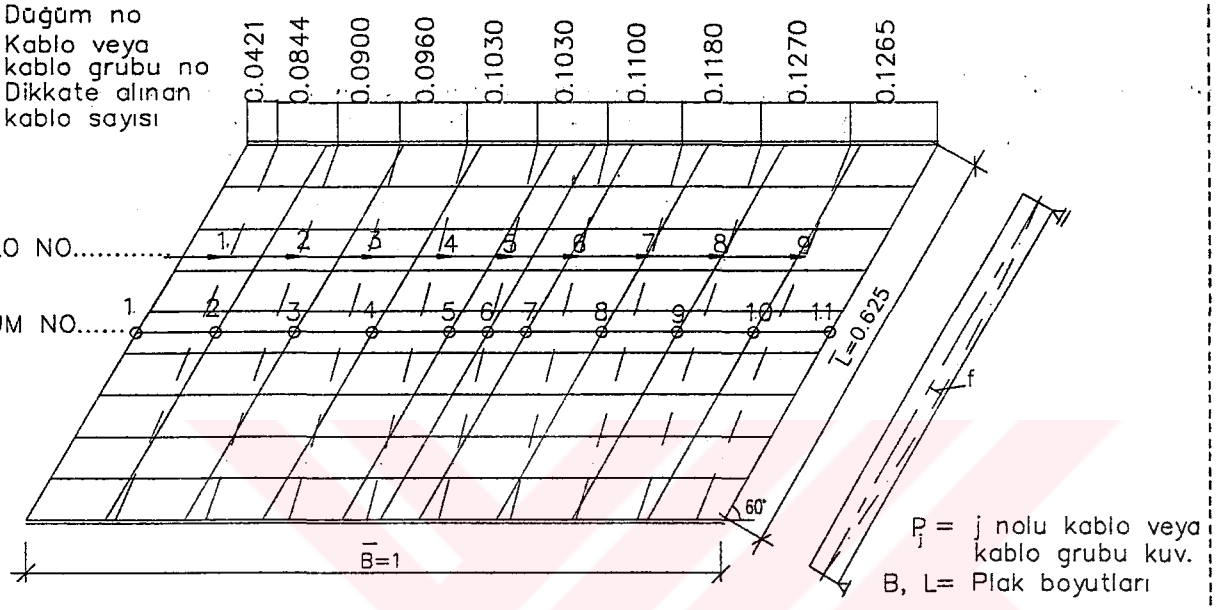
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.16555	-1.46385	0.37388	0.75588	0.61447	0.17968	0.01105	-0.01139	-0.04941	-4.75520
2	-3.78605	-2.70840	-1.32125	-0.22509	0.29852	0.25375	0.07318	0.03065	-0.02445	-7.40918
3	-2.16280	-2.61860	-2.46643	-1.59800	-0.47233	0.17333	0.16632	0.10051	0.00559	-8.87240
4	-0.53989	-1.90640	-2.73233	-2.58905	-1.71488	-0.46526	0.12069	0.17057	0.09497	-9.56153
5	0.29265	-0.82082	-1.97010	-2.72910	-2.73395	-1.71740	-0.40825	0.10633	0.19691	-9.78373
6	0.37039	-0.20422	-1.16981	-2.45490	-2.94355	-2.47863	-1.17940	-0.20913	0.36856	-9.90070
7	0.19775	0.10836	-0.40248	-1.69733	-2.72635	-2.74703	-1.98338	-0.82982	0.28723	-9.79318
8	0.09570	0.17168	0.12347	-0.45642	-1.70190	-2.58028	-2.74528	-1.92110	-0.54990	-9.56398
9	0.00636	0.10164	0.16781	0.17343	-0.46636	-1.57520	-2.46440	-2.63170	-2.16975	-8.85820
10	-0.02441	0.03040	0.06931	0.25056	0.29653	-0.21299	-1.30630	-2.69533	-3.78060	-7.37280
11	-0.04770	-0.00837	-0.00379	0.17704	0.60648	0.75104	0.37380	-1.43330	-5.12515	-4.70995

N609F — s12 TESİR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1.6$	Yelpaze kablo	N609F



P_j = j nolu kablo veya kablo grubu kuv.
B, L= Plak boyutları

Mesnet
Mesh
Kablo

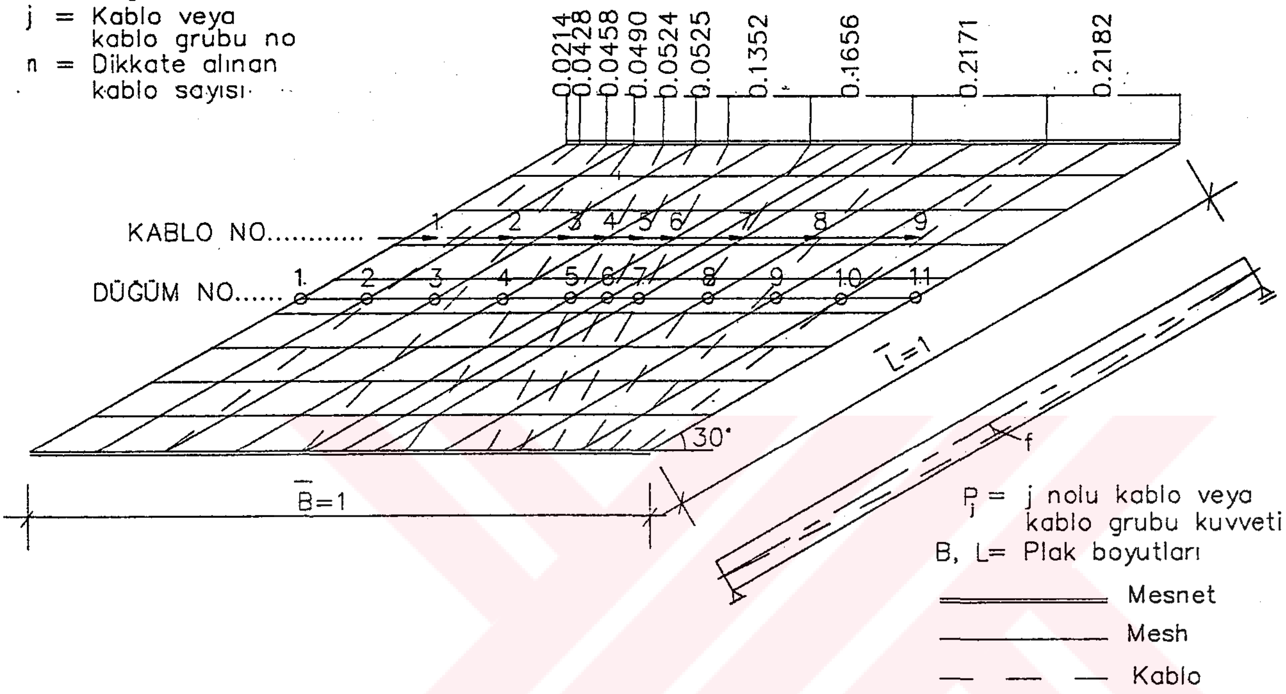
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-2.89290	-0.51958	0.24130	0.04151	-0.09762	0.09733	0.10521	0.04196	0.04654	-2.93625
2	-1.84840	-0.85829	-0.18330	-0.09684	-0.17871	-0.01596	0.05763	0.03079	0.05146	-3.04163
3	-0.45248	-1.11150	-0.94558	-0.30908	-0.15897	-0.13605	-0.01382	0.00967	0.08037	-3.03747
4	0.14626	-0.35958	-1.02976	-0.93267	-0.34578	-0.12054	-0.06278	-0.01666	0.10347	-2.61803
5	0.12549	0.08670	-0.23828	-0.90177	-0.91061	-0.40271	-0.13448	-0.04535	0.15833	-2.26267
6	0.11344	-0.02935	-0.12051	-0.56330	-0.96545	-0.56390	-0.12149	-0.03026	0.11425	-2.16660
7	0.15822	-0.04556	-0.13396	-0.39943	-0.90695	-0.89703	-0.23639	0.08589	0.12715	-2.24808
8	0.10260	-0.01828	-0.06380	-0.11894	-0.34339	-0.92011	-1.01907	-0.35907	0.14625	-2.59380
9	0.07926	0.00733	-0.01526	-0.13454	-0.15846	-0.30596	-0.92846	-1.09955	-0.45486	-3.01048
10	0.05123	0.02996	0.05973	-0.01508	-0.17711	-0.10027	-0.18084	-0.84238	-1.84050	-3.01528
11	0.04558	0.03953	0.10592	0.09635	-0.09551	0.03692	0.23719	-0.50465	-2.86990	-2.90855

3012F **m11 TESIR SAYILARI**

$\frac{\bar{B}}{\bar{L}} = 1$	Yelpaze kablo	N3012F

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_i \frac{\bar{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.68543	-0.37617	-0.14113	0.01014	0.02269	0.06916	0.07369	0.06670	0.06312	-0.89723
2	-0.60087	-0.43769	-0.14568	0.01798	0.03167	0.09388	0.09812	0.08841	0.08329	-0.77091
3	-0.02170	-0.60457	-0.31387	-0.00688	0.02279	0.10286	0.12146	0.11438	0.11114	-0.47440
4	0.47507	-0.15859	-0.72620	-0.34633	-0.07960	0.05285	0.14478	0.17289	0.19052	-0.27460
5	0.51742	0.24407	-0.30607	-0.87298	-0.38711	-0.31750	0.06000	0.24457	0.36874	-0.44887
6	0.44914	0.24318	-0.03866	-0.71622	-0.47996	-0.71461	-0.03761	0.24388	0.45025	-0.60063
7	0.36749	0.24406	0.05927	-0.31887	-0.31644	-0.87311	-0.30415	0.24513	0.51832	-0.37829
8	0.18975	0.17277	0.14463	0.05240	-0.04270	-0.34775	-0.72616	-0.15674	0.47575	-0.23805
9	0.11066	0.11435	0.12144	0.10273	0.03629	-0.00734	-0.31507	-0.60508	-0.03501	-0.47705
10	0.08292	0.08840	0.09812	0.09380	0.04102	0.01771	-0.14627	-0.43881	-0.61816	-0.78127
11	0.06284	0.06669	0.07369	0.06909	0.02946	0.00993	-0.14165	-0.37695	-0.67764	-0.88453

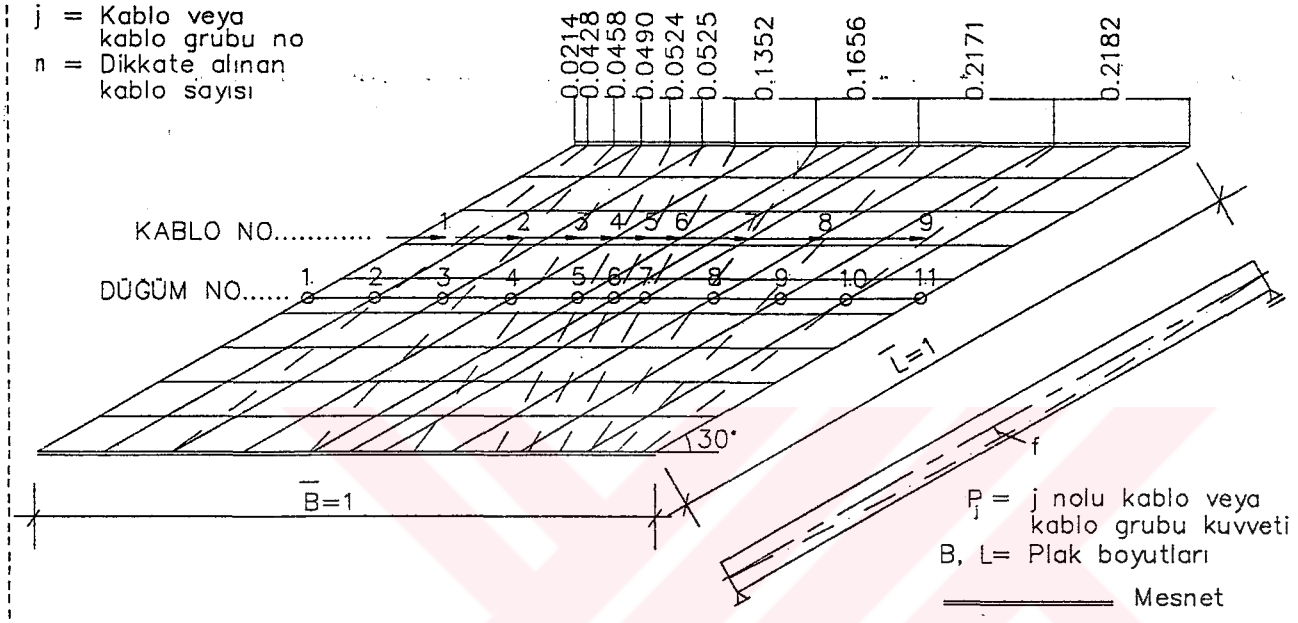
3012F

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Yelpaze kablo	N3012F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.85548	-0.37347	-0.20339	-0.12484	-0.06150	-0.07899	-0.05035	-0.03069	-0.01929	-1.79800
2	-1.02255	-0.93336	-0.69416	-0.49715	-0.23859	-0.30291	-0.18067	-0.09931	-0.05128	-4.01997
3	-1.20180	-1.14824	-1.15999	-0.88466	-0.43064	-0.57897	-0.35049	-0.19882	-0.10799	-6.06160
4	-1.03108	-1.21485	-1.25660	-1.29205	-0.63064	-0.90318	-0.58677	-0.35149	-0.21179	-7.47850
5	-0.67243	-0.90729	-1.21825	-1.25843	-0.69863	-1.23060	-0.89765	-0.62777	-0.46268	-7.97373
6	-0.59530	-0.77664	-1.08393	-1.36880	-0.73247	-1.36848	-1.08319	-0.77627	-0.59867	-8.38367
7	-0.46006	-0.62811	-0.89839	-1.23090	-0.67847	-1.25858	-1.21798	-0.90673	-0.67589	-7.95510
8	-0.21045	-0.35186	-0.58743	-0.90393	-0.58023	-1.29270	-1.25650	-1.21513	-1.03475	-7.43292
9	-0.10724	-0.19907	-0.35093	-0.57952	-0.39024	-0.88547	-1.16051	-1.14831	-1.21377	-6.03508
10	-0.05091	-0.09944	-0.18092	-0.30323	-0.21089	-0.49766	-0.69473	-0.93419	-1.01352	-3.98553
11	-0.01917	-0.03072	-0.05041	-0.07907	-0.05467	-0.12496	-0.20363	-0.37397	-0.82035	-1.75695

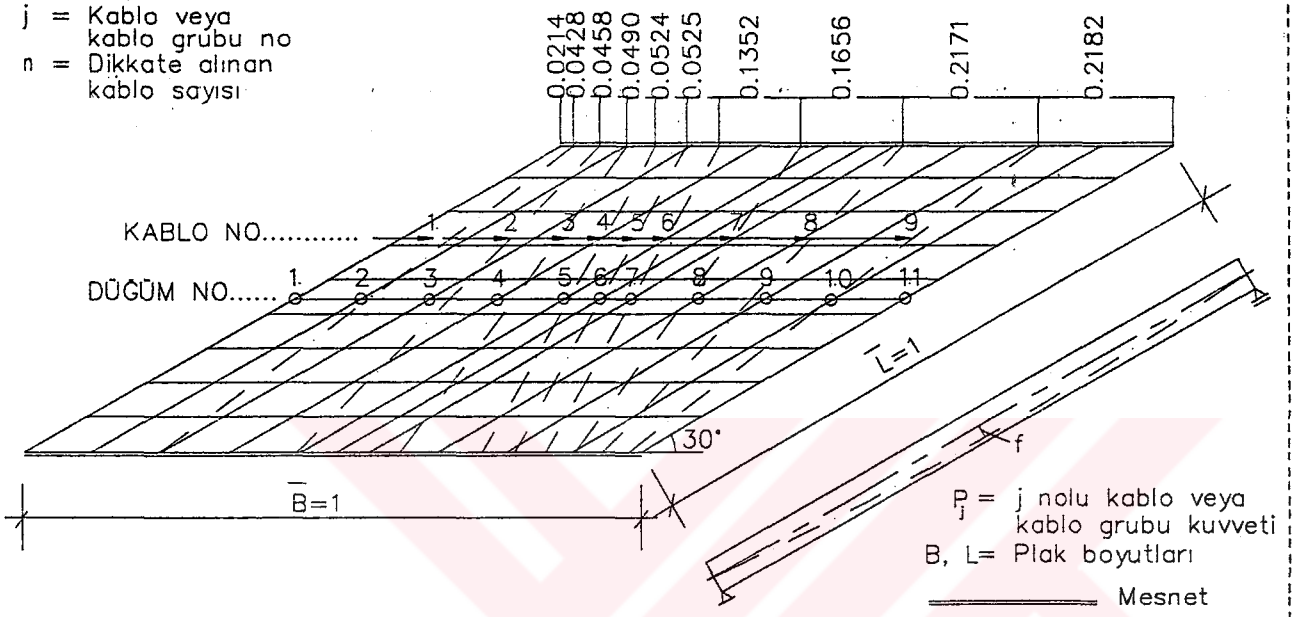
012F

m12 TESIR SAYILARI

$$M_{12}^{i}=\sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{L}$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}}=1$	Yelpaze kablo	N3012F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

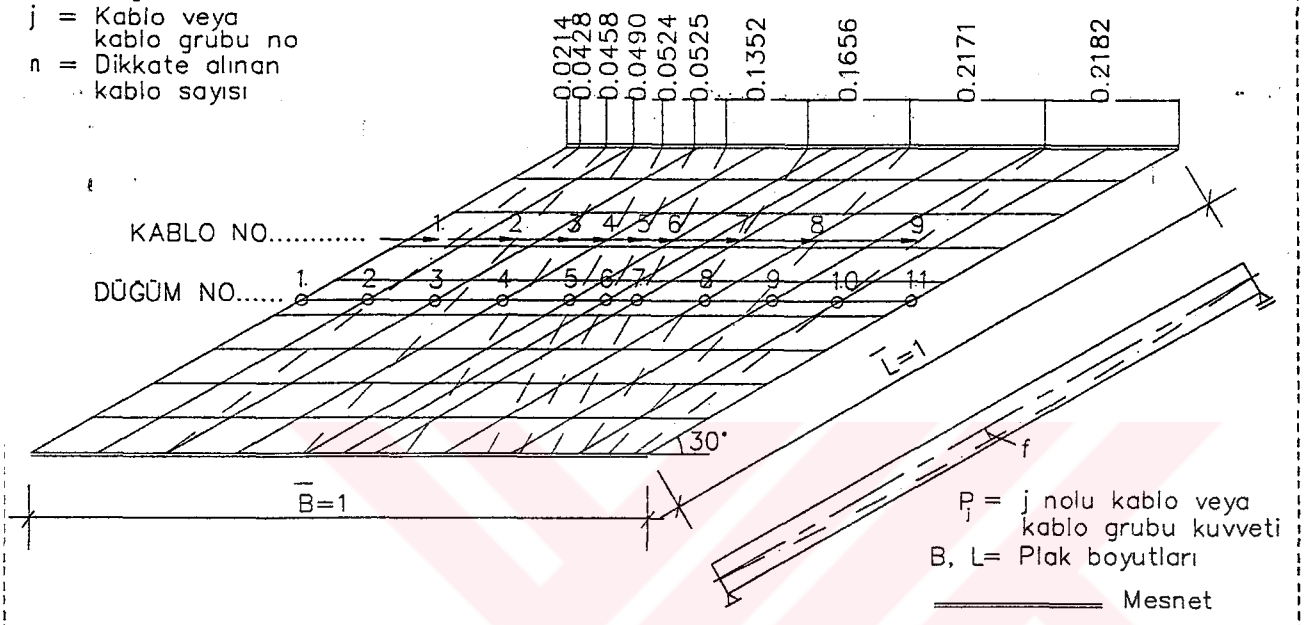
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.96231	-0.53310	-0.29978	-0.17188	-0.07932	-0.08706	-0.04426	-0.01823	-0.00291	-2.19885
2	-0.70433	-0.64906	-0.44050	-0.24097	-0.10993	-0.10309	-0.03964	-0.00407	0.01683	-2.27475
3	-0.88173	-0.37309	-0.48253	-0.33030	-0.15898	-0.14488	-0.05130	0.00179	0.03379	-2.38725
4	-0.72204	-0.40493	-0.03575	-0.25985	-0.16344	-0.17934	-0.09164	-0.02646	0.01477	-1.86868
5	-0.35925	-0.31941	-0.14196	0.16876	0.00323	-0.13455	-0.12275	-0.11112	-0.09100	-1.10805
6	-0.19869	-0.18861	-0.18104	0.01220	0.06424	0.01172	-0.18131	-0.18867	-0.20009	-1.05022
7	-0.09035	-0.11113	-0.12275	-0.13413	0.02595	0.16885	-0.14310	-0.31969	-0.36186	-1.08823
8	0.01481	-0.02660	-0.09186	-0.17956	-0.08870	-0.25957	-0.03581	-0.40645	-0.73167	-1.80540
9	0.03372	0.00168	-0.05148	-0.14517	-0.10800	-0.33076	-0.48257	-0.37309	-0.90274	-2.35843
10	0.01682	-0.00415	-0.03976	-0.10330	-0.08420	-0.24137	-0.44103	-0.64970	-0.69194	-2.23860
11	-0.00285	-0.01828	-0.04434	-0.08718	-0.06585	-0.17212	-0.30017	-0.53392	-0.92532	-2.15000

3012F | s11 TESIR SAYILARI

$S_{11}^{j} = \sum_{i=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1$	Yelpaze kablo	N3012F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

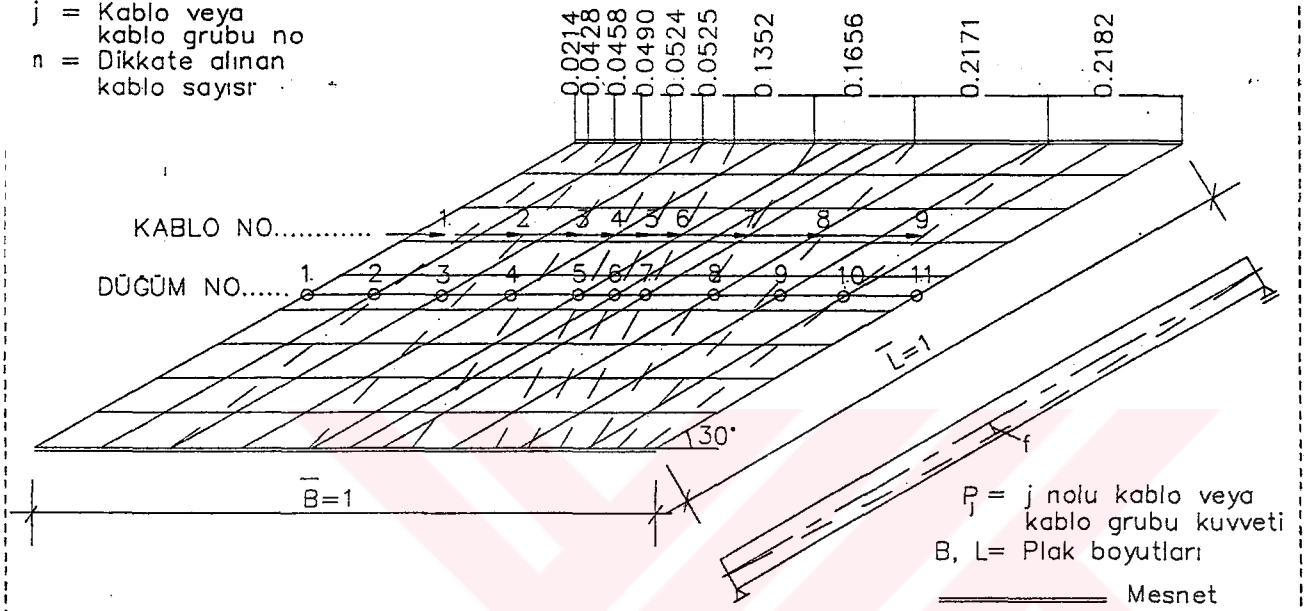
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-5.55825	-0.45459	0.69963	-0.04126	-0.12329	-0.08118	-0.03370	-0.00656	0.01362	-5.58555
2	-4.62950	-1.06607	0.30688	0.02316	-0.13509	-0.11600	-0.09651	-0.07675	-0.05808	-5.84798
3	-3.54370	-1.52405	-0.24056	0.06784	-0.03864	-0.15231	-0.27089	-0.24490	-0.20674	-6.15393
4	-2.51328	-1.44243	-0.54349	-0.05097	-0.03897	-0.15353	-0.33927	-0.45988	-0.53480	-6.07660
5	-1.69610	-1.00879	-0.48945	0.03617	0.08157	-0.01179	-0.26365	-0.68045	-1.00973	-5.04223
6	-1.19747	-0.73021	-0.27150	-0.09236	-0.19124	-0.09236	-0.26860	-0.73021	-1.19747	-4.77148
7	-1.00973	-0.68045	-0.26987	-0.01179	0.08157	0.03617	-0.49195	-1.00879	-1.69610	-5.05095
8	-0.53480	-0.45988	-0.34141	-0.15353	-0.03896	-0.05097	-0.54420	-1.44243	-2.51328	-6.07943
9	-0.20674	-0.24490	-0.27176	-0.15231	-0.03864	0.06784	-0.24019	-1.52405	-3.54370	-6.15445
10	-0.05808	-0.07675	-0.09765	-0.11600	-0.13509	0.02316	0.30750	-1.06607	-4.62950	-5.84848
11	0.01362	-0.00656	-0.03212	-0.08118	-0.12329	-0.04126	0.69828	-0.45459	-5.55825	-5.58530

3012F — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Yelpaze kablo	N3012F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.09785	-0.05732	1.23785	-0.60977	-0.84030	-0.53257	-0.18496	0.04997	0.22106	-3.81385
2	-0.53923	-1.00336	-0.28512	-0.35935	-0.55332	-0.38467	-0.19391	-0.06546	0.01416	-3.37023
3	-0.78878	-0.78561	-1.39654	-0.86941	-0.65429	-0.47553	-0.20645	0.07817	0.28861	-4.80996
4	-2.00463	-1.49698	-1.34795	-1.85175	-1.73128	-1.41122	-0.88248	-0.12415	0.51828	-10.33208
5	-2.41774	-1.91785	-1.88400	-1.53298	-1.05047	-1.20205	-1.15798	-0.86410	-0.33367	-12.36095
6	-0.90704	-1.32220	-1.46681	-2.25323	-2.69040	-2.25323	-1.46196	-1.32220	-0.90704	-14.58400
7	-0.33367	-0.86410	-1.16063	-1.20205	-1.05047	-1.53298	-1.88409	-1.91785	-2.41774	-12.36338
8	0.51828	-0.12415	-0.87148	-1.41122	-1.73128	-1.85175	-1.33870	-1.49698	-2.00463	-10.31193
9	0.28861	0.07818	-0.20030	-0.47553	-0.65429	-0.86941	-1.40059	-0.78561	-0.78878	-4.80784
10	0.01415	-0.06546	-0.18513	-0.38467	-0.55332	-0.35935	-0.29590	-1.00336	-0.53923	-3.37230
11	0.22106	0.04997	-0.15824	-0.53257	-0.84030	-0.60977	1.21585	-0.05732	-3.09785	-3.80920

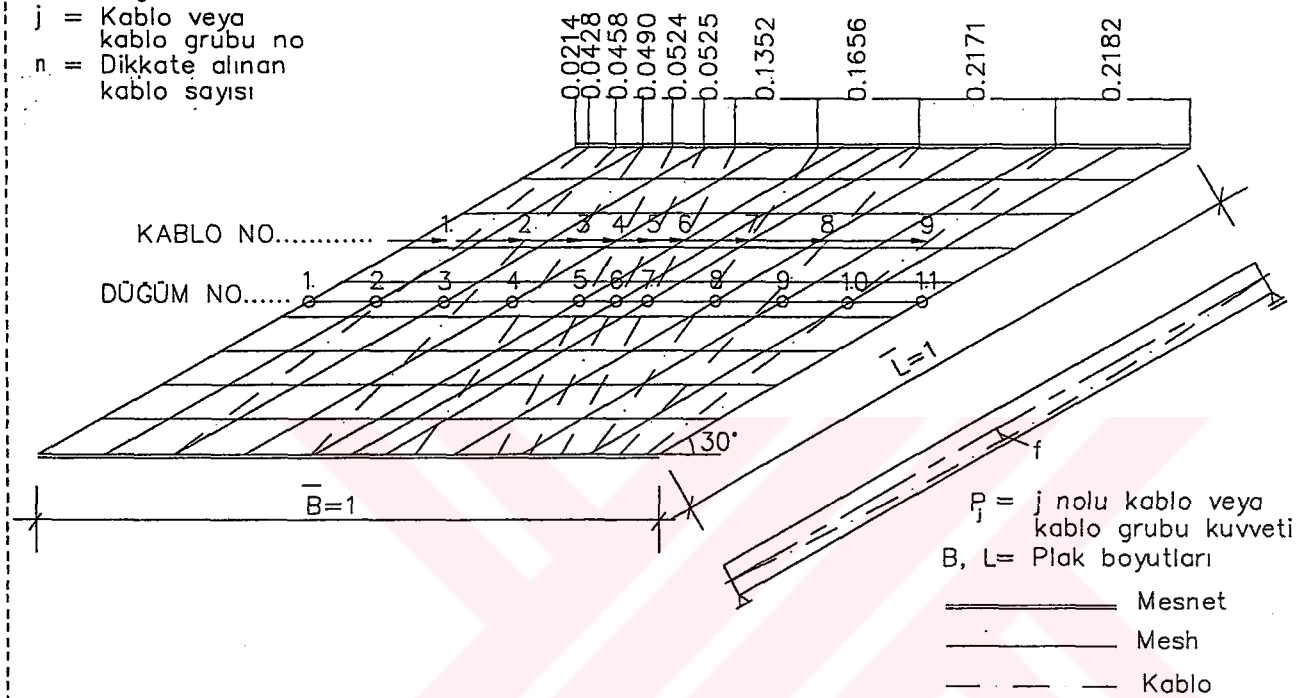
3012F

s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Yelpaze kablo	N3012F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

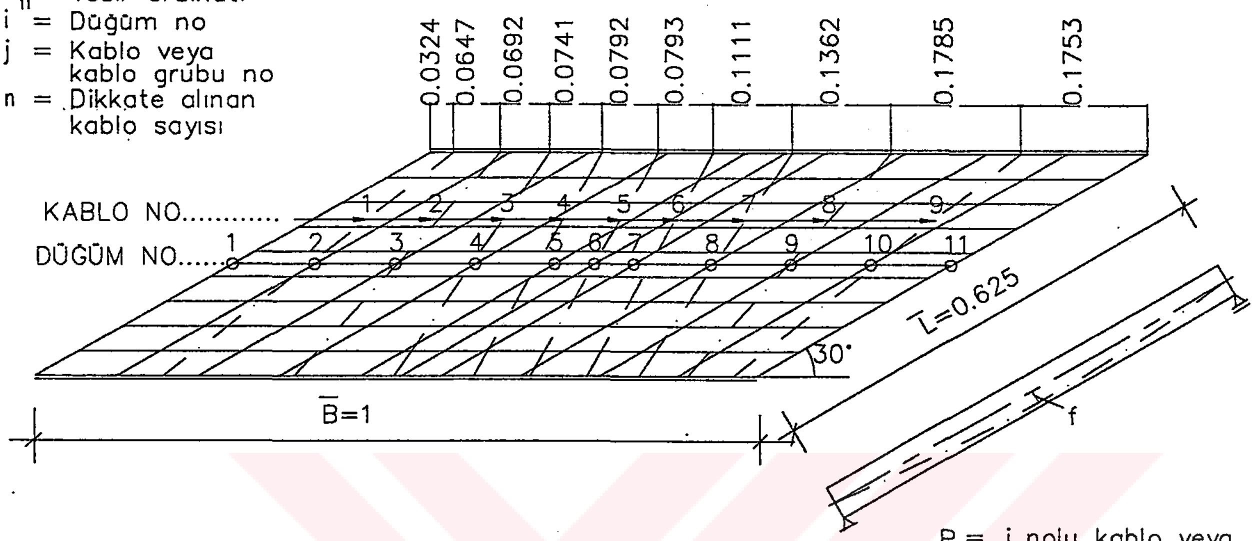
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.70095	0.67648	0.38337	0.45432	0.40476	0.24973	0.07302	-0.01990	-0.08926	-1.56842
2	-3.15515	-1.95698	-0.28008	0.32730	0.40552	0.30719	0.20825	0.12859	0.06691	-3.94840
3	-2.23924	-2.46863	-1.48335	-0.23551	0.16526	0.20344	0.24757	0.18766	0.13185	-5.49095
4	-1.02164	-1.84647	-2.19515	-1.17390	-0.53184	-0.15017	0.25480	0.22386	0.17351	-6.26698
5	0.51877	-0.76386	-1.81716	-2.18352	-2.19340	-1.43535	-0.52314	0.09072	0.50862	-7.79828
6	0.54611	-0.35522	-1.39925	-1.82970	-1.97220	-1.82970	-1.41429	-0.35522	0.54611	-8.06333
7	0.50862	0.09072	-0.51430	-1.43535	-2.19340	-2.18353	-1.82754	-0.76386	0.51877	-7.79995
8	0.17351	0.22386	0.25086	-0.15017	-0.53184	-1.17390	-2.19620	-1.84648	-1.02164	-6.27198
9	0.13185	0.18766	0.24221	0.20344	0.16526	-0.23551	-1.47793	-2.46863	-2.23924	-5.49085
10	0.06691	0.12859	0.20092	0.30719	0.40552	0.32730	-0.27287	-1.95698	-3.15515	-3.94855
11	-0.08926	-0.01990	0.06789	0.24973	0.40476	0.45432	0.38684	0.67648	-3.70095	-1.57011

3013F **m11 TESIR SAYILARI**

$\frac{\overline{B}}{\overline{L}} = 1.6$	Yelpaze kablo	N3013F

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j \frac{\overline{L}}{L}$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.98894	-0.18785	0.07072	0.10756	0.07962	0.04892	0.02422	0.01000	0.00311	-0.83267
2	-0.79708	-0.34972	0.12414	0.15935	0.11261	0.06925	0.03378	0.01385	0.00426	-0.62958
3	0.60926	-0.96149	-0.28029	0.19978	0.20295	0.13209	0.06775	0.02913	0.00995	0.00911
4	0.60193	-0.04434	-1.42163	-0.63311	0.13548	0.22582	0.15191	0.07646	0.03296	-0.87448
5	0.26194	0.24865	-0.20972	-1.50868	-1.09745	-0.09053	0.14125	0.14490	0.09748	-2.01218
6	0.16479	0.17149	0.05338	-0.69834	-1.43185	-0.69738	0.05348	0.17175	0.16511	-2.04760
7	0.09732	0.14485	0.14119	-0.09043	-1.09863	-1.50843	-0.20916	0.24917	0.26253	-2.01155
8	0.03295	0.07650	0.15189	0.22579	0.13508	-0.63343	-1.42150	-0.04229	0.60384	-0.87117
9	0.00995	0.02916	0.06774	0.13208	0.20299	0.19960	-0.28087	-0.96163	0.61199	0.01100
10	0.00426	0.01386	0.03378	0.06925	0.11262	0.15928	0.12391	-0.35142	-0.79788	-0.63233
11	0.00311	0.01001	0.02423	0.04895	0.07971	0.10763	0.07073	-0.18876	-0.99572	-0.84010

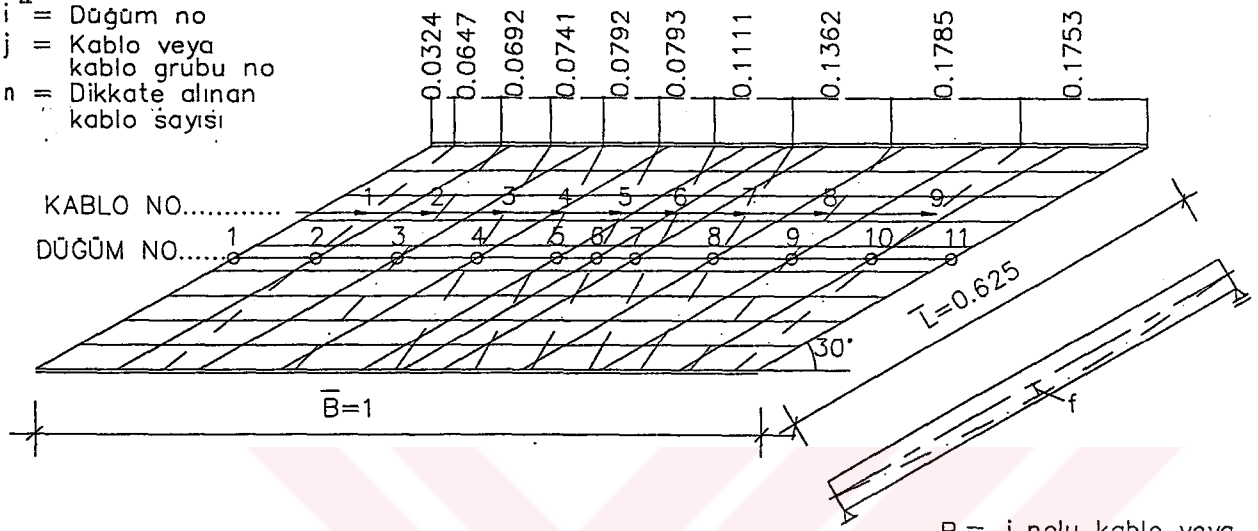
3013F

m22 TESİR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N3013F

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.08416	-0.40347	-0.12555	-0.04772	-0.02509	-0.01351	-0.00550	-0.00186	-0.00029	-1.70715
2	-1.78890	-1.52625	-0.85688	-0.42992	-0.21398	-0.10166	-0.04075	-0.01315	-0.00177	-4.97325
3	-1.59443	-1.80310	-1.57720	-0.98889	-0.53921	-0.28337	-0.12094	-0.04363	-0.00952	-6.96033
4	-0.75935	-1.40225	-1.76725	-1.67708	-1.17743	-0.66899	-0.30930	-0.12087	-0.03454	-7.91700
5	-0.28099	-0.71698	-1.42833	-1.79878	-1.69190	-1.28313	-0.71298	-0.32525	-0.12312	-8.36140
6	-0.21184	-0.50272	-1.00683	-1.68955	-1.97610	-1.68790	-1.00647	-0.50223	-0.21185	-8.79550
7	-0.12317	-0.32558	-0.71327	-1.28373	-1.69278	-1.79898	-1.42710	-0.71626	-0.28080	-8.36165
8	-0.03462	-0.12106	-0.30942	-0.66924	-1.17870	-1.67795	-1.76743	-1.40143	-0.75987	-7.91973
9	-0.00956	-0.04371	-0.12099	-0.28346	-0.53958	-0.98935	-1.57850	-1.80413	-1.59628	-6.96557
10	-0.00179	-0.01319	-0.04078	-0.10173	-0.21426	-0.43005	-0.85703	-1.52768	-1.79008	-4.97658
11	-0.00029	-0.00187	-0.00552	-0.01356	-0.02519	-0.04788	-0.12582	-0.40434	-1.08555	-1.71000

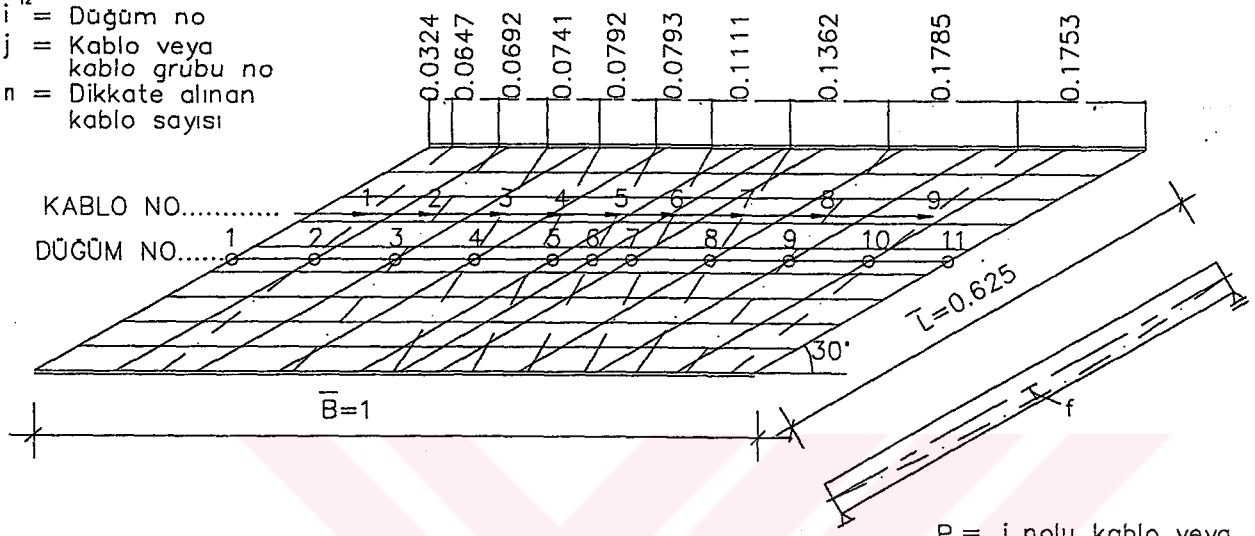
3013F

m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j \frac{\bar{L}}{\bar{L}}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N3013F

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-1.11990	-0.54553	-0.19138	-0.06903	-0.02886	-0.01175	-0.00373	-0.00081	0.00022	-1.97075
2	-0.88707	-0.75654	-0.33463	-0.09167	-0.01540	0.00555	0.00692	0.00434	0.00221	-2.06630
3	-0.99187	-0.00097	-0.29469	-0.20311	-0.06571	-0.01216	0.00506	0.00529	0.00335	-1.55478
4	-0.27993	-0.22328	0.41029	-0.05921	-0.23682	-0.09712	-0.02707	-0.00138	0.00449	-0.51002
5	-0.01970	-0.13626	-0.19091	0.37749	0.15567	-0.14877	-0.06391	-0.01315	0.01185	-0.02769
6	0.01035	-0.04088	-0.12355	-0.07184	0.00690	-0.07173	-0.12395	-0.04111	0.01020	-0.44560
7	0.01196	-0.01298	-0.06358	-0.14876	0.15614	0.37715	-0.19101	-0.13661	-0.01997	-0.02766
8	0.00453	-0.00126	-0.02678	-0.09668	-0.23665	-0.05914	0.41015	-0.22453	-0.28139	-0.51176
9	0.00336	0.00535	0.00521	-0.01188	-0.06532	-0.20273	-0.29483	-0.00203	-0.99626	-1.55913
10	0.00222	0.00436	0.00697	0.00567	-0.01523	-0.09134	-0.33425	-0.75666	-0.88949	-2.06778
11	0.00022	-0.00080	-0.00370	-0.01168	-0.02876	-0.06884	-0.19113	-0.54598	-1.11905	-1.96970

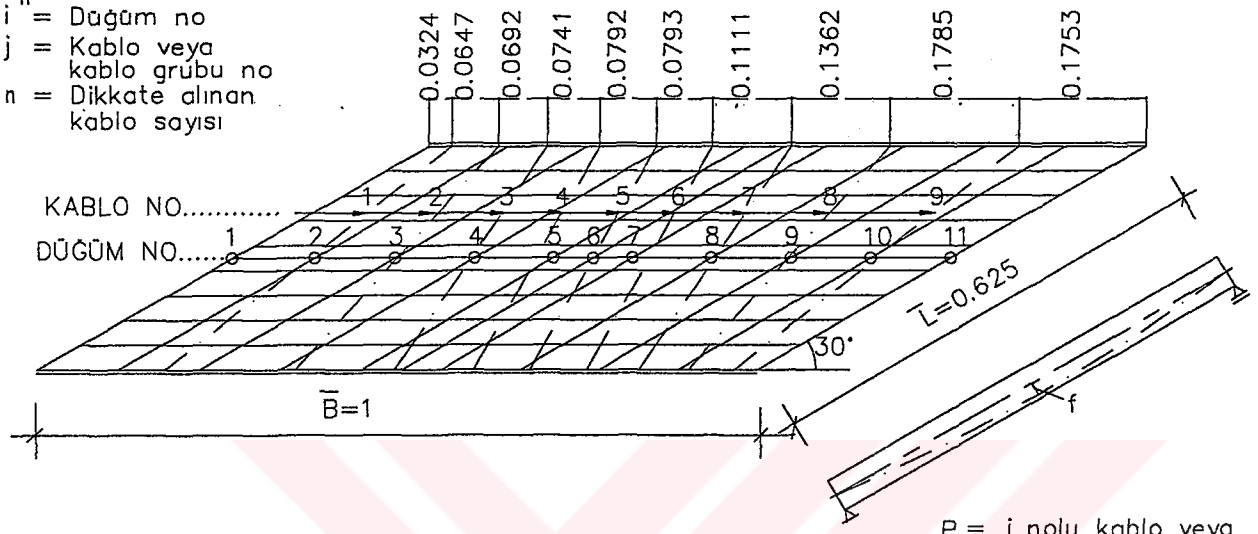
3013F

s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j/B$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N3013F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-6.28780	0.84231	0.43618	0.37779	-0.01735	-0.09544	-0.04184	0.02546	0.04326	-4.71745
2	-5.17888	-0.30838	0.09599	0.06527	0.04716	-0.10826	-0.05607	0.03907	0.06229	-5.34178
3	-3.50048	-1.27068	-0.39141	-0.21598	0.04046	-0.13902	-0.04227	0.08505	0.03205	-5.40228
4	-2.02015	-1.24191	-0.64141	-0.39688	-0.26579	-0.21782	-0.12683	-0.02335	-0.06608	-5.00023
5	-1.05891	-0.76041	-0.58939	-0.43413	-0.46595	-0.22460	-0.30921	-0.37119	-0.28453	-4.49833
6	-0.59087	-0.55912	-0.45294	-0.33393	-0.57366	-0.33239	-0.45080	-0.55771	-0.58822	-4.43963
7	-0.29303	-0.37189	-0.30979	-0.22571	-0.46740	-0.43365	-0.58720	-0.75975	-1.05305	-4.50148
8	-0.07562	-0.02295	-0.12519	-0.21647	-0.26734	-0.39772	-0.64022	-1.24234	-1.99778	-4.98568
9	0.02292	0.08583	-0.03991	-0.13610	0.04219	-0.21640	-0.39130	-1.27107	-3.43740	-5.34122
10	0.05580	0.03988	-0.05443	-0.10576	0.05281	0.06755	0.09465	-0.30813	-4.95873	-5.11635
11	0.04549	0.02638	-0.04067	-0.09347	-0.01037	0.38200	0.43377	0.84285	-5.93435	-4.34845

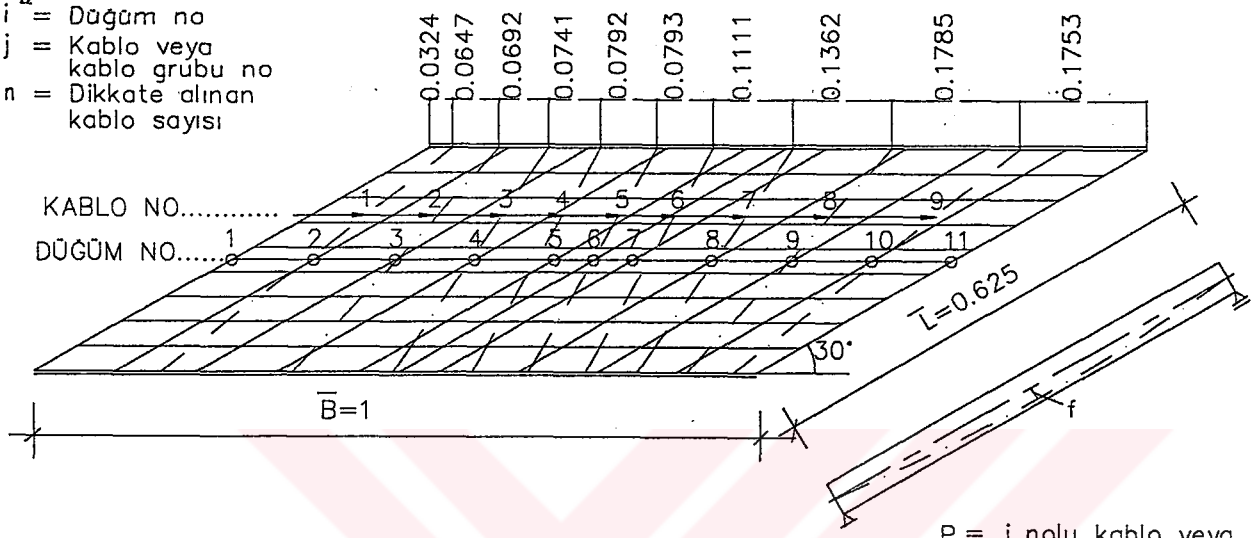
3013F

s22 TESİR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j/B$

$\frac{B}{L} = 1.6$	Yelpaze kablo	N3013F

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.12685	0.41065	1.24738	2.93494	0.29000	-0.41770	-0.17545	0.17144	0.17981	1.51413
2	-1.46637	-1.86534	-0.53608	1.62560	1.39661	-0.32549	-0.28637	0.20676	0.32271	-0.92796
3	-2.30586	-1.97646	-2.40120	-0.32424	2.29039	0.57959	0.37995	0.54744	0.14433	-3.06613
4	-2.07928	-2.59125	-2.86923	-2.71618	-0.91940	0.86257	1.10622	0.75177	-0.17746	-8.63235
5	-0.47415	-1.80613	-2.40218	-3.54730	-3.21665	-1.03109	0.32828	0.49579	-0.89422	-12.54730
6	-0.77556	-0.20859	-1.25000	-3.22650	-3.37413	-3.21428	-1.23828	-0.20625	-0.77086	-14.26425
7	-0.96015	0.49496	0.32679	-1.03666	-3.22875	-3.54370	-2.38835	-1.80340	-0.56450	-12.70405
8	-0.21754	0.75354	1.11610	0.87235	-0.92675	-2.72200	-2.86223	-2.59610	-2.22176	-8.80428
9	0.14055	0.55179	0.39276	0.59590	2.30324	-0.32393	-2.40043	-1.98711	-2.44495	-3.17212
10	0.35782	0.21162	-0.27673	-0.31125	1.42752	1.64170	-0.53530	-1.87494	-1.47660	-0.83617
11	0.27151	0.17715	-0.16818	-0.40622	0.32770	2.96028	1.24832	0.40200	-2.98990	1.82259

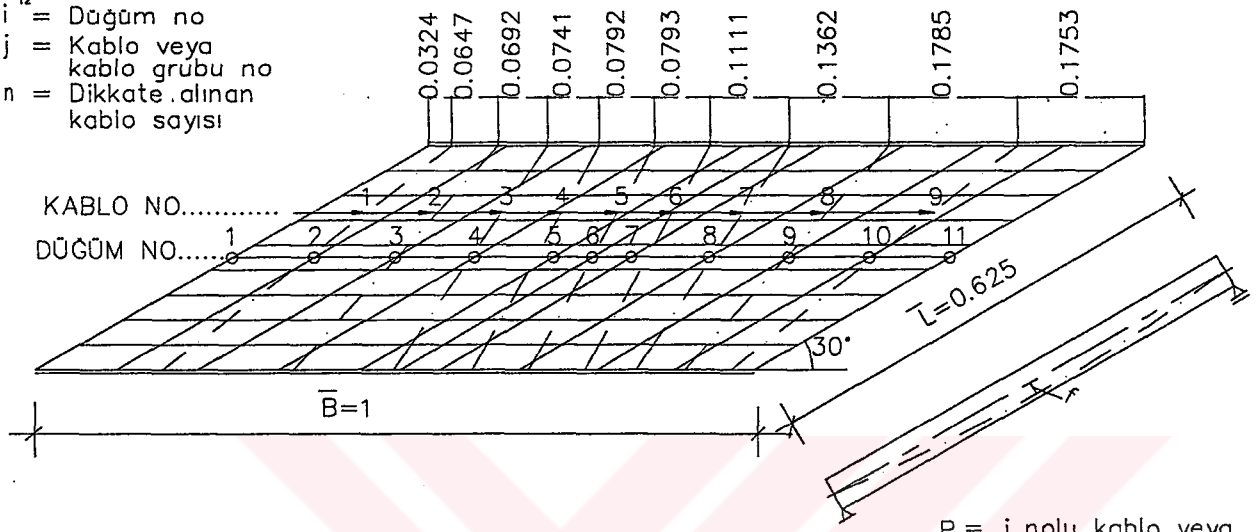
3013F

s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j/B$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Yelpaze kablo	N3013F



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-3.73990	1.97840	-0.37386	-0.86802	-0.12442	0.10219	0.02685	-0.08184	-0.06571	-3.14630
2	-3.95795	-2.00655	-0.01380	-0.41390	-0.14957	0.14093	0.07310	-0.07451	-0.10269	-6.50495
3	-1.67249	-3.14800	-1.59910	-0.23061	-0.55803	-0.09259	-0.06467	-0.14213	-0.03776	-7.54535
4	0.79347	-1.53898	-2.59903	-1.71015	-0.34987	-0.25767	-0.20349	-0.13601	0.09953	-5.90220
5	0.60143	0.54526	-1.17517	-2.46348	-2.23520	-0.74420	-0.24835	-0.05363	0.33912	-5.43423
6	0.55959	0.44804	-0.45797	-1.59731	-2.77083	-1.60047	-0.46050	0.44808	0.56553	-4.86580
7	0.34562	-0.05447	-0.24771	-0.74195	-2.23285	-2.46445	-1.17856	0.54411	0.63414	-5.39618
8	0.09919	-0.13673	-0.20519	-0.25899	-0.34807	-1.70860	-2.60060	-1.53685	0.81395	-5.88188
9	-0.05084	-0.14295	-0.06657	-0.09494	-0.56046	-0.23066	-1.59918	-3.14710	-1.64754	-7.54023
10	-0.12806	-0.07518	0.07142	0.13854	-0.15345	-0.41700	-0.01387	-2.00657	-3.93400	-6.51815
11	-0.07941	-0.08270	0.02543	0.09994	-0.13023	-0.87173	-0.37489	1.97955	-3.79370	-3.22775

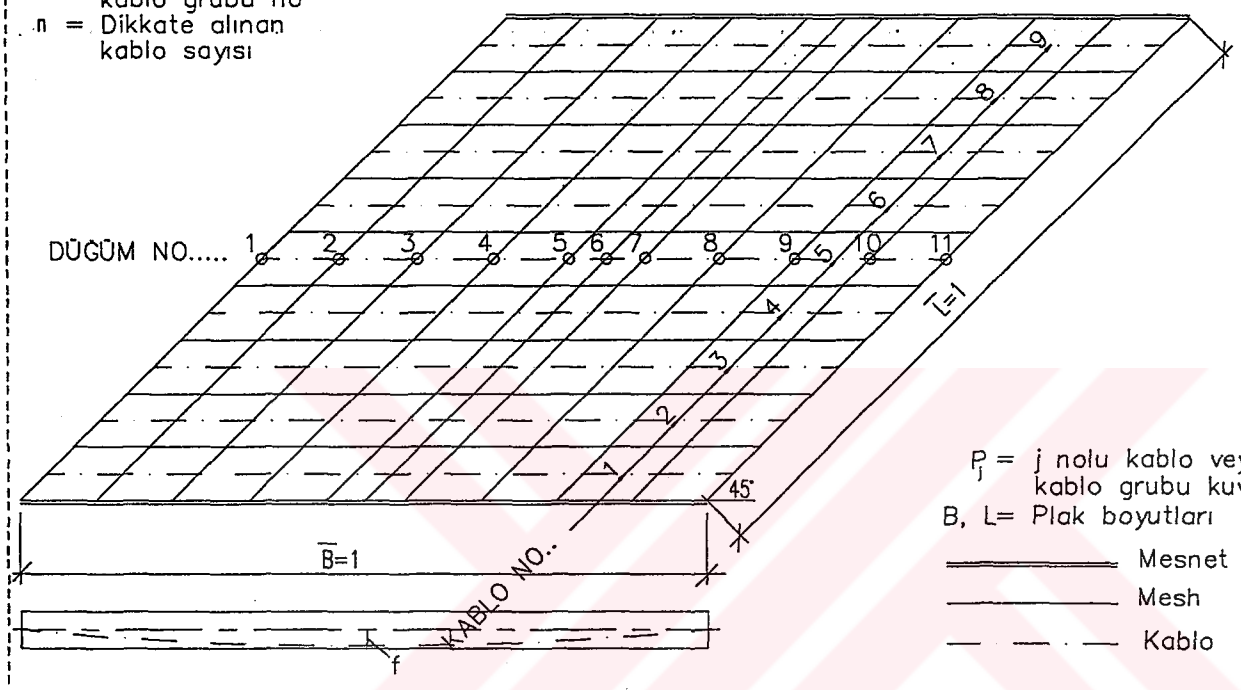
5.3 MESNET ÇİZGİSİNE PARALEL KABLO DÜZENİ İÇİN TESİR SAYILARI

N451B — mİj TESİR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N451B

$M_{ij} = \sum_{j=1}^{n} m_{ij}^{ij} P_j f/B$

m_{ij}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

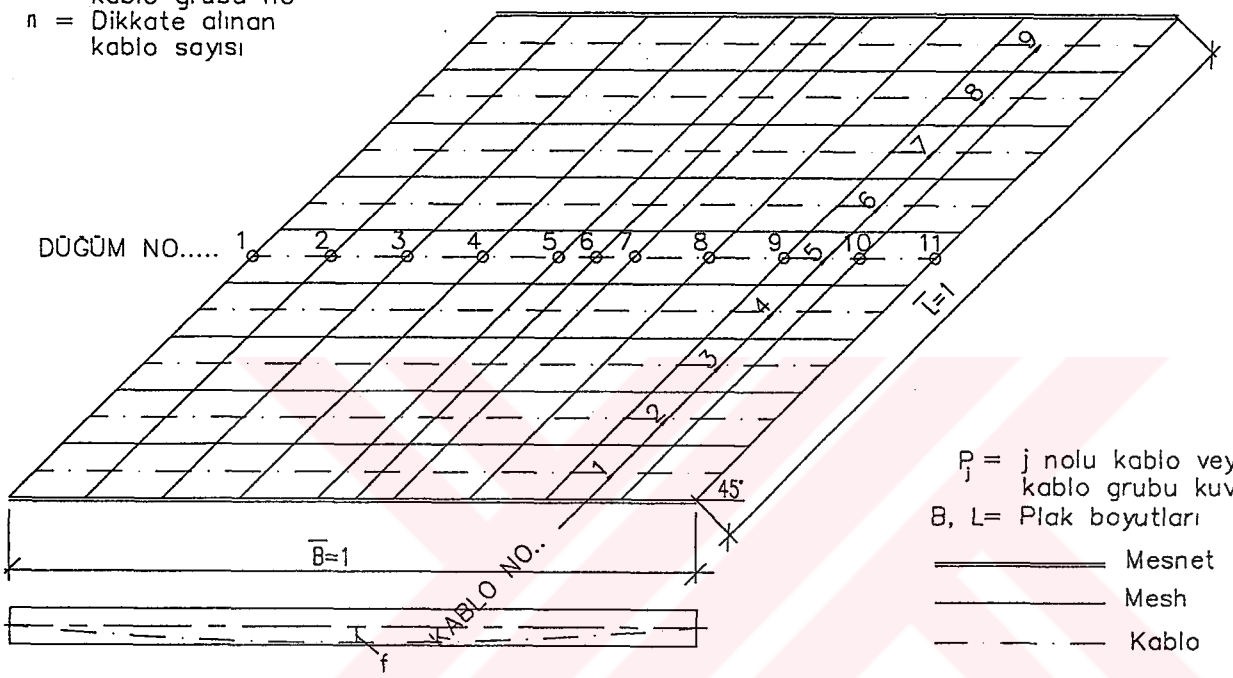
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.02799	0.05697	0.01621	-0.03599	-0.19501	-0.21563	-0.04927	0.00295	0.00837	-0.38341
2	0.02827	0.05427	0.02357	-0.05487	-0.13481	-0.12527	-0.04941	0.00095	0.00748	-0.24982
3	0.03636	0.08107	0.06990	0.01037	-0.05997	-0.08408	-0.05309	-0.01169	0.00247	-0.00867
4	0.03107	0.07413	0.08001	0.03282	-0.02137	-0.03411	-0.02623	-0.00861	0.00074	0.12844
5	0.01289	0.02584	0.01833	0.00434	-0.00570	0.01083	0.02782	0.02305	0.01072	0.12813
6	0.01128	0.02529	0.01736	0.00346	0.00056	0.00398	0.01770	0.02551	0.01135	0.11649
7	0.01076	0.02315	0.02794	0.01107	-0.00577	0.00392	0.01803	0.02565	0.01282	0.12757
8	0.00074	-0.00862	-0.02627	-0.03417	-0.02151	0.03266	0.07992	0.07407	0.03105	0.12789
9	0.00247	-0.01168	-0.05310	-0.08414	-0.06014	0.01013	0.06972	0.08096	0.03632	-0.00947
10	0.00748	0.00095	-0.04940	-0.12530	-0.13503	-0.05515	0.02336	0.05414	0.02822	-0.25073
11	0.00838	0.00298	-0.04917	-0.21548	-0.19501	-0.03614	0.01607	0.05687	0.02795	-0.38356

N451B — m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N451B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

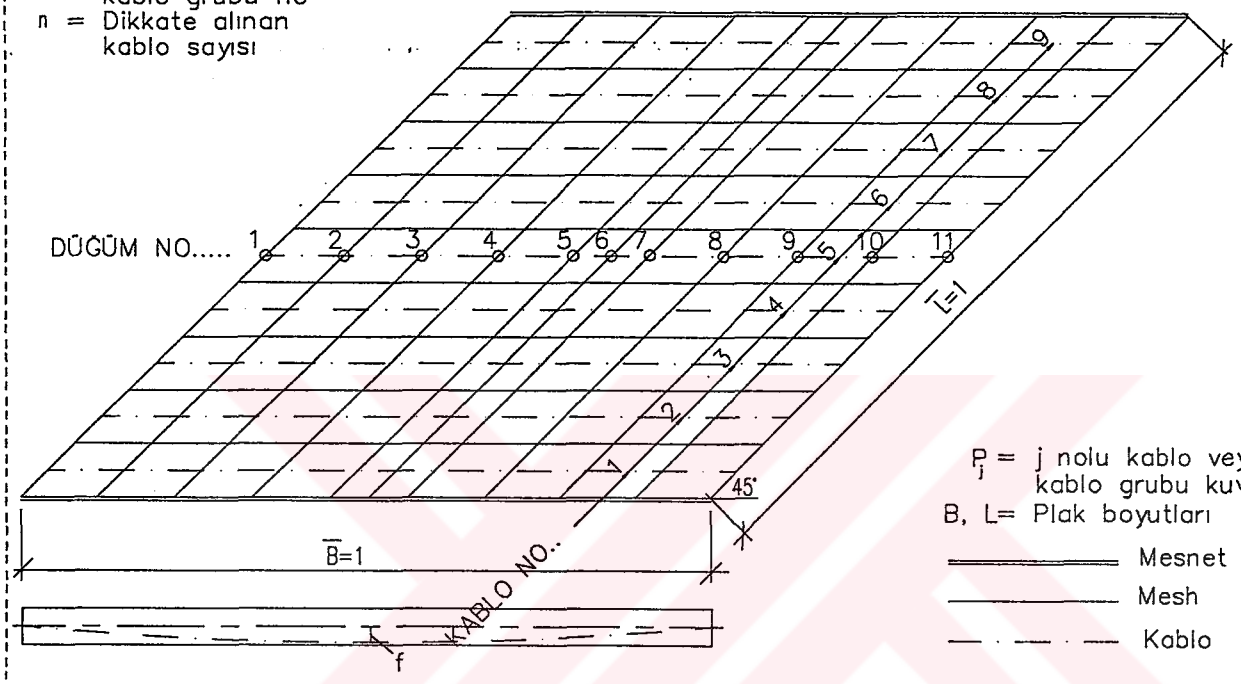
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.25157	-0.68632	-0.98221	-1.09655	-0.88242	-0.51295	-0.28556	-0.15265	-0.04671	-4.89690
2	-0.23284	-0.65072	-0.96886	-1.17835	-1.14573	-0.81474	-0.45885	-0.23282	-0.07037	-5.75330
3	-0.22052	-0.63194	-0.97844	-1.25513	-1.30920	-1.02187	-0.62489	-0.32084	-0.09671	-6.45950
4	-0.19935	-0.58811	-0.94553	-1.25895	-1.37308	-1.13690	-0.74398	-0.40053	-0.12260	-6.76903
5	-0.17354	-0.52796	-0.89184	-1.23260	-1.36895	-1.17740	-0.82229	-0.46719	-0.14860	-6.81035
6	-0.16220	-0.50263	-0.85877	-1.22950	-1.42255	-1.22990	-0.85909	-0.50288	-0.16230	-6.92985
7	-0.14853	-0.46697	-0.82193	-1.17693	-1.36870	-1.23283	-0.89204	-0.52809	-0.17359	-6.80963
8	-0.12255	-0.40034	-0.74364	-1.13645	-1.37300	-1.25930	-0.94578	-0.58828	-0.19941	-6.76873
9	-0.09667	-0.32068	-0.62454	-1.02133	-1.30905	-1.25535	-0.97860	-0.63207	-0.22057	-6.45890
10	-0.07034	-0.23270	-0.45860	-0.81422	-1.14545	-1.17847	-0.96897	-0.65080	-0.23287	-5.75243
11	-0.04668	-0.15258	-0.28540	-0.51251	-0.88200	-1.09645	-0.98221	-0.68635	-0.25159	-4.89580

N451B — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N451B

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

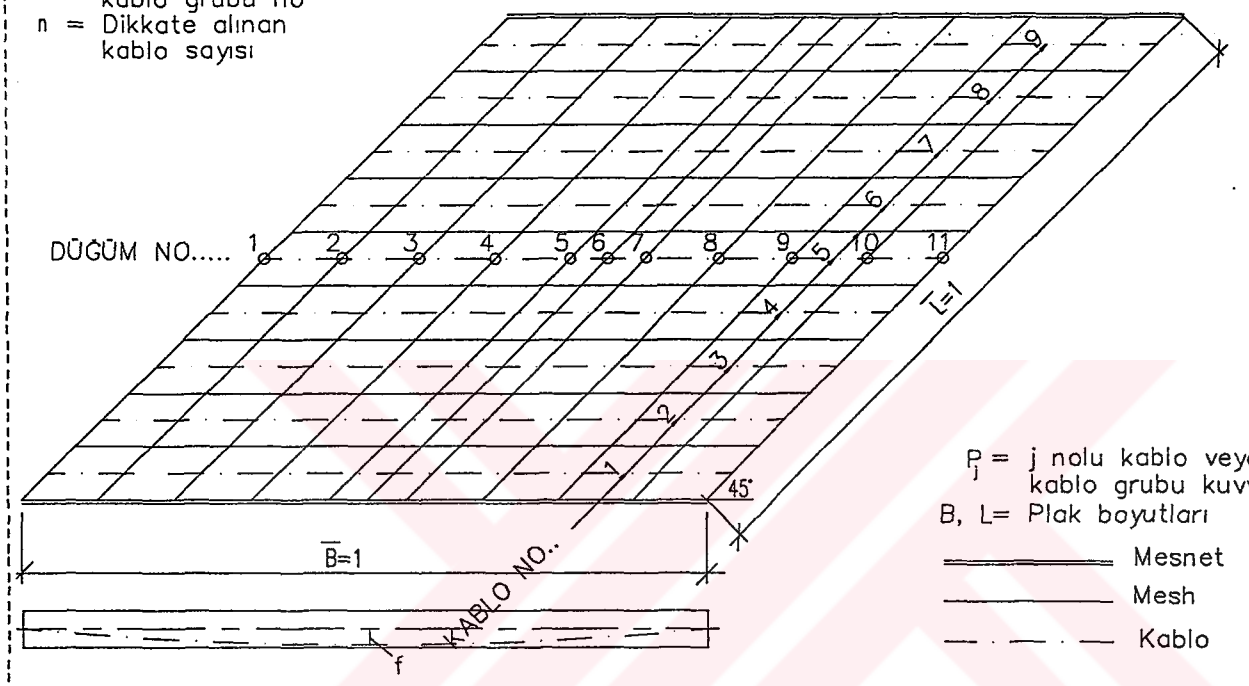
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.11448	-0.32732	-0.49059	-0.60741	-0.48860	-0.24812	-0.13217	-0.05742	-0.01444	-2.48055
2	-0.08856	-0.24917	-0.36926	-0.44636	-0.42220	-0.27544	-0.13166	-0.05163	-0.01092	-2.04523
3	-0.06188	-0.17357	-0.25320	-0.31020	-0.31725	-0.23028	-0.11634	-0.04094	-0.00632	-1.50998
4	-0.03506	-0.10219	-0.15175	-0.18649	-0.20252	-0.16086	-0.08835	-0.03176	-0.00363	-0.96260
5	-0.01383	-0.04590	-0.08045	-0.10955	-0.12479	-0.11374	-0.07797	-0.03518	-0.00734	-0.60874
6	-0.00915	-0.03648	-0.06798	-0.11020	-0.13910	-0.11014	-0.06793	-0.03646	-0.00914	-0.58658
7	-0.00739	-0.03533	-0.07829	-0.11420	-0.12539	-0.11020	-0.08096	-0.04624	-0.01395	-0.61195
8	-0.00360	-0.03166	-0.08821	-0.16067	-0.20252	-0.18668	-0.15190	-0.10232	-0.03511	-0.96269
9	-0.00630	-0.04085	-0.11617	-0.23003	-0.31719	-0.31034	-0.25330	-0.17367	-0.06192	-1.50980
10	-0.01090	-0.05155	-0.13151	-0.27512	-0.42201	-0.44641	-0.36932	-0.24923	-0.08859	-2.04462
11	-0.01443	-0.05736	-0.13206	-0.24781	-0.48836	-0.60743	-0.49065	-0.32739	-0.11450	-2.47995

N451B — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N451B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

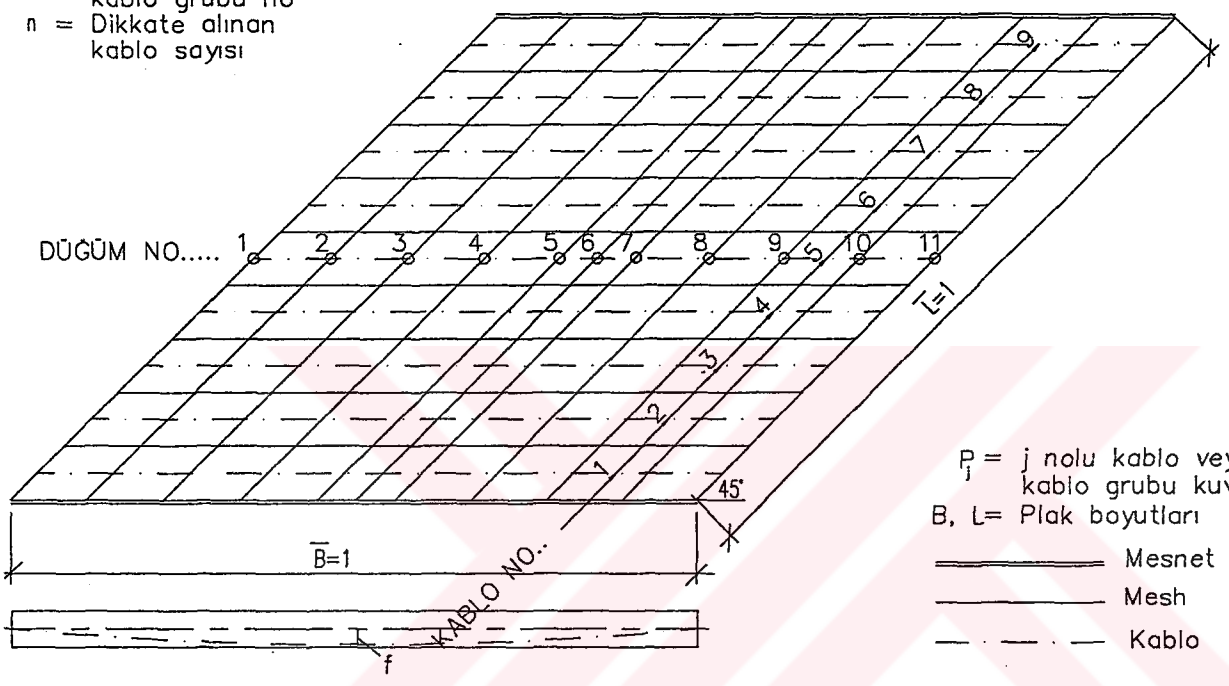
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.48060	0.06244	-1.22735	-3.72885	-3.04445	-0.48702	-0.28106	-0.06120	-0.06267	-7.34960
2	0.78115	-0.29973	-1.38383	-3.16817	-3.89248	-1.81218	-0.23805	-0.19794	-0.18010	-10.39117
3	0.14304	-0.73087	-1.59315	-2.52615	-3.65450	-2.75395	-0.84365	-0.37979	-0.30351	-12.64250
4	-0.22256	-0.95071	-1.61555	-2.13810	-2.58343	-2.50253	-1.47301	-0.57499	-0.37603	-12.43675
5	-0.26185	-0.99687	-1.66043	-2.07653	-2.28710	-2.27010	-1.75108	-0.93791	-0.41035	-12.65250
6	-0.29278	-1.04484	-1.74758	-2.11790	-2.19723	-2.11863	-1.74835	-1.04432	-0.29043	-12.60200
7	-0.40989	-0.93720	-1.75027	-2.26995	-2.28743	-2.07698	-1.66103	-0.99756	-0.26231	-12.65275
8	-0.37491	-0.57427	-1.47260	-2.50295	-2.58443	-2.13895	-1.61603	-0.95071	-0.22163	-12.43650
9	-0.30215	-0.37865	-0.84218	-2.75328	-3.65523	-2.52735	-1.59390	-0.73078	0.14415	-12.63950
10	-0.17882	-0.19701	-0.23626	-1.80607	-3.89143	-3.17233	-1.38425	-0.29927	0.78277	-10.38275
11	-0.06139	-0.06040	-0.27928	-0.47697	-3.04365	-3.73680	-1.22725	0.06327	1.48270	-7.33980

N451B — s22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}}=1$	Enine kablo	N451B

$$S_{22}^{i}=\sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

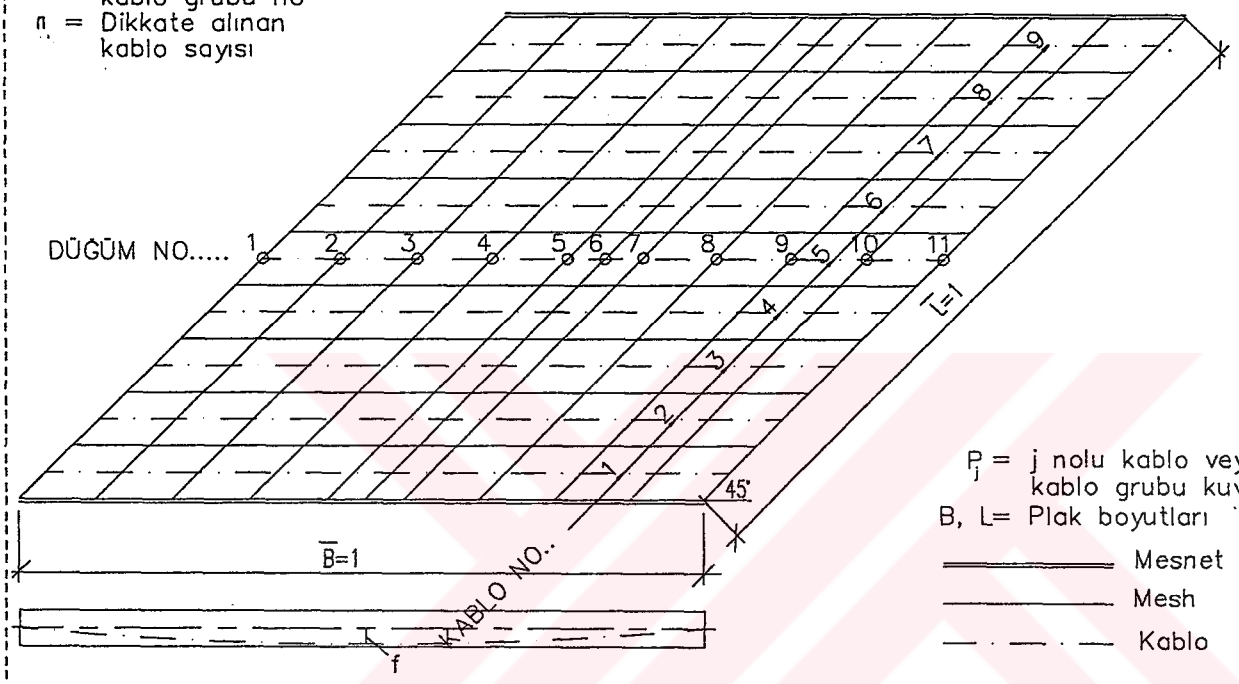
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.64095	0.82831	-0.56117	-1.96585	1.34010	1.91592	-0.82390	0.00234	0.09260	3.46930
2	0.35859	0.22726	-0.06617	-0.11034	-0.17337	0.25978	0.47506	0.05061	-0.06022	0.96120
3	-0.20170	0.05779	0.27400	0.59054	0.05524	-0.00617	0.33622	0.13208	0.27817	1.51617
4	-0.45742	-0.06977	0.33545	0.68094	0.45270	-0.02534	0.14508	0.15824	0.05158	1.27151
5	0.05880	-0.07354	0.21344	0.52052	0.59183	0.22518	-0.08335	-0.19066	-0.77719	0.48503
6	-0.15108	-0.16882	0.01517	0.46698	0.74261	0.46712	0.01735	-0.16283	-0.14267	1.08385
7	-0.77908	-0.19540	-0.08873	0.22229	0.59018	0.51940	0.21432	-0.06942	0.06917	0.48273
8	0.05648	0.15806	0.13891	-0.03309	0.44846	0.67963	0.33691	-0.06470	-0.44733	1.27333
9	0.28479	0.13632	0.33633	-0.01455	0.04884	0.59095	0.27646	0.06357	-0.19067	1.53202
10	-0.05363	0.05509	0.48202	0.26366	-0.17243	-0.10742	-0.06263	0.23331	0.36901	1.00695
11	0.09915	0.00668	-0.81419	1.92820	1.34070	-1.96870	-0.55710	0.83489	2.65169	3.52120

N451B — s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N451B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

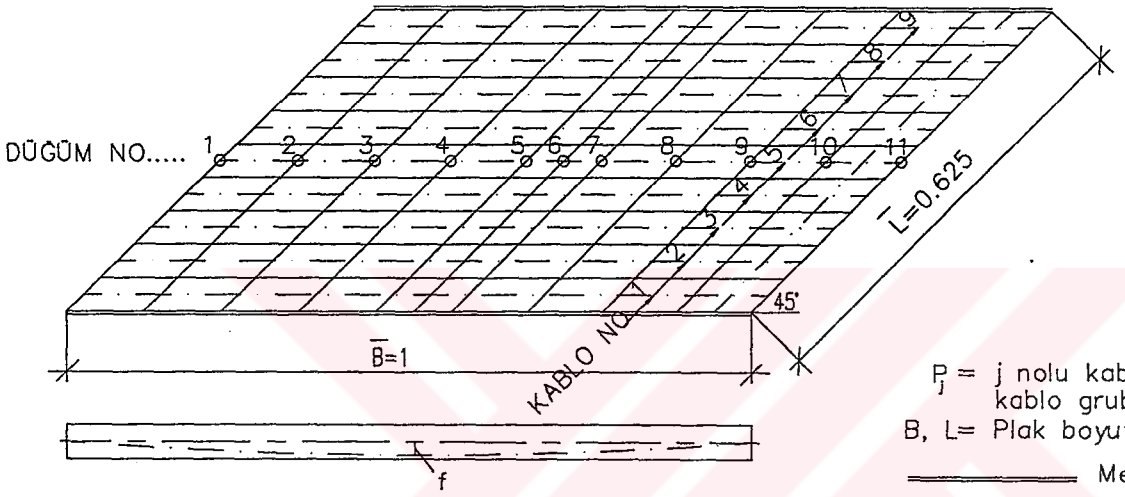
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.49200	0.36809	-0.82606	-5.46595	-3.25526	2.06120	0.75417	0.24477	0.06927	-4.55795
2	0.70301	0.03276	-0.74869	-1.03744	-0.53183	-0.47149	-0.25315	0.22631	0.25790	-1.82263
3	0.02895	-0.11022	-0.28112	-0.36428	0.29909	0.57723	-0.28212	-0.51279	-0.18978	-0.83503
4	-0.28855	-0.12344	-0.09198	-0.13138	0.14777	0.54655	0.29607	-0.35821	-0.72942	-0.73257
5	-0.70972	-0.11347	0.08657	0.08283	0.12224	0.36285	0.40702	-0.00019	-0.51291	-0.27477
6	-0.71796	0.00534	0.28461	0.16758	0.04563	0.16744	0.28407	0.00422	-0.71893	-0.47800
7	-0.51240	0.00088	0.40915	0.36533	0.12425	0.08428	0.08714	-0.11427	-0.71286	-0.26849
8	-0.73091	-0.35853	0.29742	0.54968	0.15016	-0.13064	-0.09246	-0.12546	-0.29266	-0.73337
9	-0.19240	-0.51390	-0.28303	0.57916	0.30182	-0.36408	-0.28197	-0.11252	0.02457	-0.84234
10	0.25498	0.22438	-0.25506	-0.47323	-0.53192	-1.03761	-0.75063	0.03018	0.69875	-1.84014
11	0.06622	0.24264	0.75045	2.05252	-3.26572	-5.47140	-0.82848	0.36504	1.48756	-4.60120

N452B — mii TESIR SAYILARI

$M_{ii} = \sum_{j=1}^{n} m_{ii}^{ij} P_j f_i / B$

m_{ii}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

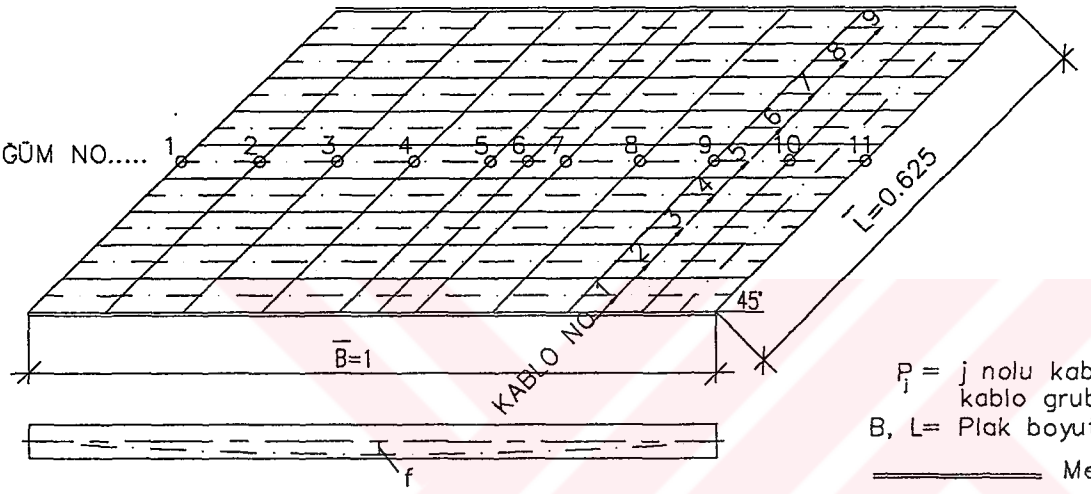
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.02520	0.05825	0.03684	0.03015	-0.12052	-0.19714	-0.06699	-0.01738	-0.00064	-0.25222
2	0.02310	0.04817	0.03572	-0.01159	-0.06716	-0.07984	-0.05204	-0.02029	-0.00319	-0.12713
3	0.01965	0.04197	0.03389	0.00091	-0.03759	-0.05582	-0.05138	-0.03292	-0.01043	-0.09172
4	0.00470	0.00735	-0.00799	-0.04881	-0.07692	-0.07366	-0.06280	-0.04374	-0.01586	-0.31775
5	-0.01377	-0.04110	-0.06143	-0.08469	-0.10837	-0.08156	-0.04291	-0.02907	-0.00995	-0.47284
6	-0.01248	-0.03649	-0.06904	-0.06981	-0.05045	-0.07203	-0.07122	-0.03775	-0.01289	-0.43218
7	-0.01013	-0.02965	-0.04388	-0.08257	-0.10846	-0.08367	-0.06034	-0.04050	-0.01357	-0.47277
8	-0.01583	-0.04367	-0.06267	-0.07352	-0.07684	-0.04893	-0.00819	0.00728	0.00468	-0.31771
9	-0.01042	-0.03290	-0.05137	-0.05584	-0.03768	0.00077	0.03378	0.04191	0.01963	-0.09212
10	-0.00318	-0.02028	-0.05204	-0.07990	-0.06738	-0.01187	0.03553	0.04804	0.02306	-0.12803
11	-0.00064	-0.01735	-0.06689	-0.19704	-0.12060	0.02998	0.03669	0.05814	0.02516	-0.25253

N452B — m22 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

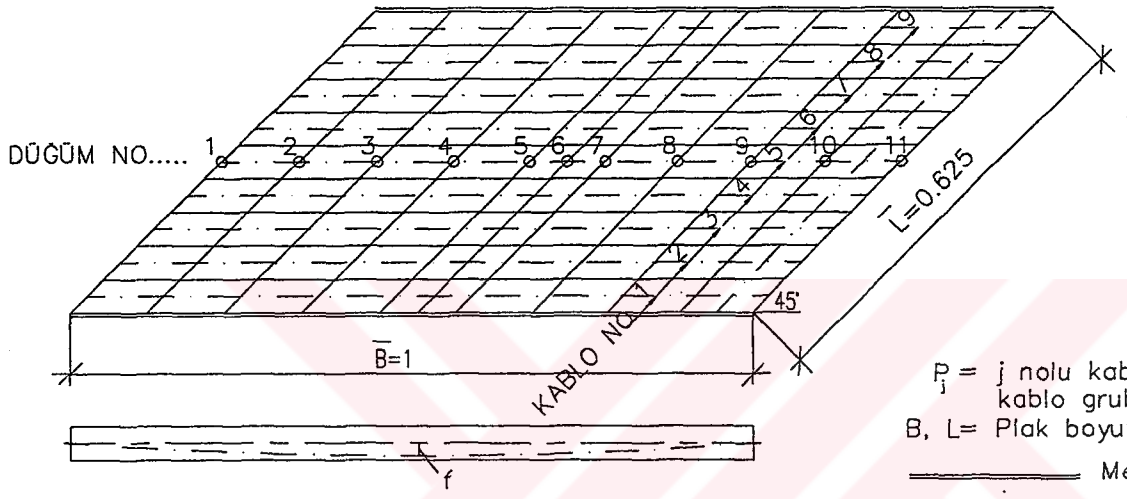
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	-0.16673	-0.45141	-0.64331	-0.71236	-0.58837	-0.34902	-0.17942	-0.09330	-0.02827	-3.21215
2	-0.14768	-0.41329	-0.61882	-0.76932	-0.78376	-0.59148	-0.34390	-0.16989	-0.04983	-3.88798
3	-0.13121	-0.37726	-0.59197	-0.77589	-0.83533	-0.68511	-0.44252	-0.23209	-0.06932	-4.14068
4	-0.11348	-0.33455	-0.54008	-0.73552	-0.82234	-0.69755	-0.47374	-0.26458	-0.08256	-4.06440
5	-0.10088	-0.30576	-0.51387	-0.70713	-0.78797	-0.68222	-0.48274	-0.28145	-0.09109	-3.95310
6	-0.09609	-0.29196	-0.49347	-0.70812	-0.82170	-0.70929	-0.49431	-0.29242	-0.09622	-4.00357
7	-0.09104	-0.28131	-0.48245	-0.68193	-0.78797	-0.70730	-0.51406	-0.30592	-0.10093	-3.95290
8	-0.08250	-0.26442	-0.47348	-0.69718	-0.82237	-0.73594	-0.54034	-0.33469	-0.11354	-4.06445
9	-0.06927	-0.23192	-0.44221	-0.68468	-0.83528	-0.77624	-0.59225	-0.37743	-0.13127	-4.14052
10	-0.04979	-0.16975	-0.34360	-0.59098	-0.78360	-0.76955	-0.61898	-0.41340	-0.14772	-3.88738
11	-0.02825	-0.09322	-0.17924	-0.34850	-0.58789	-0.71226	-0.64330	-0.45144	-0.16675	-3.21085

N452B — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

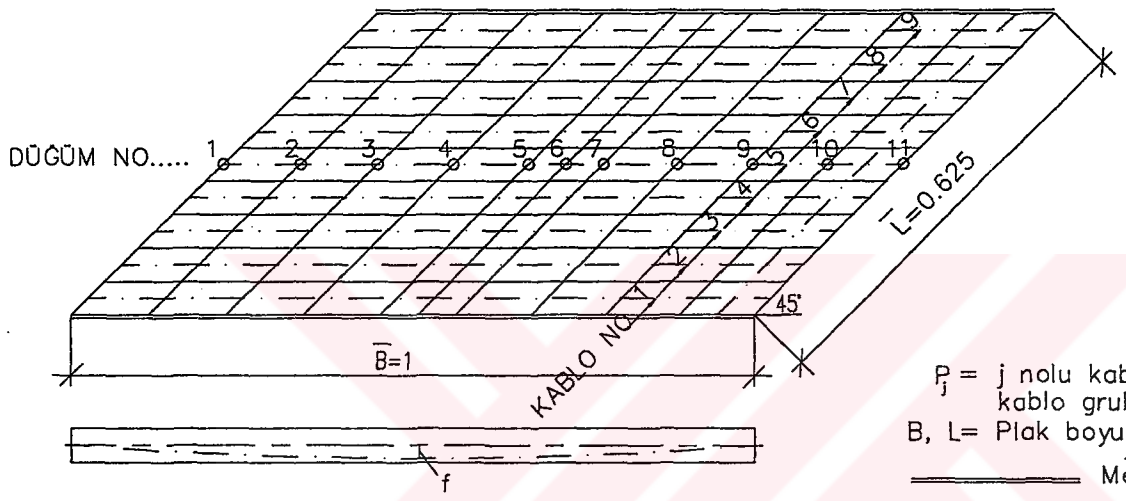
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.07334	-0.21161	-0.31143	-0.39446	-0.31735	-0.14341	-0.07279	-0.03430	-0.00885	-1.56750
2	-0.04655	-0.13142	-0.19061	-0.23900	-0.24418	-0.16165	-0.07498	-0.02981	-0.00557	-1.12374
3	-0.01928	-0.05486	-0.07756	-0.10938	-0.13159	-0.09273	-0.04276	-0.01492	-0.00071	-0.54379
4	-0.00477	-0.01373	-0.01289	-0.02960	-0.05504	-0.03427	-0.00963	-0.00321	0.00152	-0.16161
5	0.00137	0.00059	-0.00053	-0.00194	-0.01013	-0.01249	-0.00908	-0.00524	-0.00071	-0.03817
6	0.00060	0.00014	-0.00073	-0.02526	-0.05061	-0.02624	-0.00124	-0.00015	0.00048	-0.10302
7	-0.00061	-0.00492	-0.00856	-0.01190	-0.01022	-0.00259	-0.00104	0.00023	0.00125	-0.03835
8	0.00153	-0.00319	-0.00965	-0.03417	-0.05516	-0.02388	-0.01295	-0.01379	-0.00479	-0.16205
9	-0.00069	-0.01487	-0.04270	-0.09255	-0.13164	-0.10965	-0.07771	-0.05500	-0.01932	-0.54415
10	-0.00555	-0.02974	-0.07486	-0.16133	-0.24406	-0.23915	-0.19068	-0.13151	-0.04658	-1.12345
11	-0.00884	-0.03423	-0.07269	-0.14302	-0.31708	-0.39450	-0.31146	-0.21166	-0.07335	-1.56680

N452B — sil TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

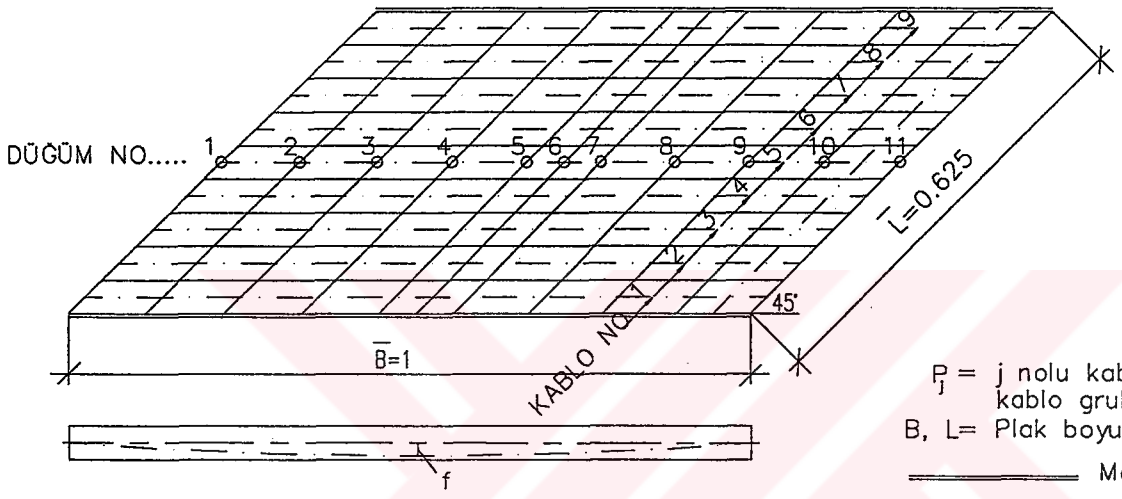
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.91635	-0.20735	-2.29935	-6.23315	-6.26105	-1.98125	-0.52890	-0.42698	-0.39697	-16.41850
2	0.55441	-0.86290	-2.29508	-4.56895	-5.62243	-3.59185	-1.35467	-0.56405	-0.53766	-18.84300
3	-0.84322	-1.61220	-2.35373	-3.04803	-4.02063	-3.66380	-2.26498	-1.45819	-0.98938	-20.25425
4	-1.58008	-1.93288	-2.22025	-2.47528	-2.80695	-2.89808	-2.49055	-1.92707	-1.49904	-19.83025
5	-1.80853	-2.05525	-2.22393	-2.32993	-2.47717	-2.56855	-2.41550	-2.18435	-1.91588	-19.97925
6	-1.94065	-2.13335	-2.31250	-2.39052	-2.36285	-2.38858	-2.31270	-2.13810	-1.94988	-19.92900
7	-1.90025	-2.17950	-2.41553	-2.56953	-2.47725	-2.33038	-2.22593	-2.05820	-1.81715	-19.97375
8	-1.48953	-1.92060	-2.48908	-2.90083	-2.80848	-2.47598	-2.22148	-1.93418	-1.58233	-19.82275
9	-0.98380	-1.45291	-2.25918	-3.66408	-4.02363	-3.04880	-2.35450	-1.61220	-0.84214	-20.24125
10	-0.53531	-0.56179	-1.34777	-3.57965	-5.62158	-4.57543	-2.29543	-0.86153	0.55872	-18.81950
11	-0.39565	-0.42536	-0.52479	-1.95985	-6.25590	-6.24715	-2.29940	-0.20503	1.92265	-16.39050

N452B — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

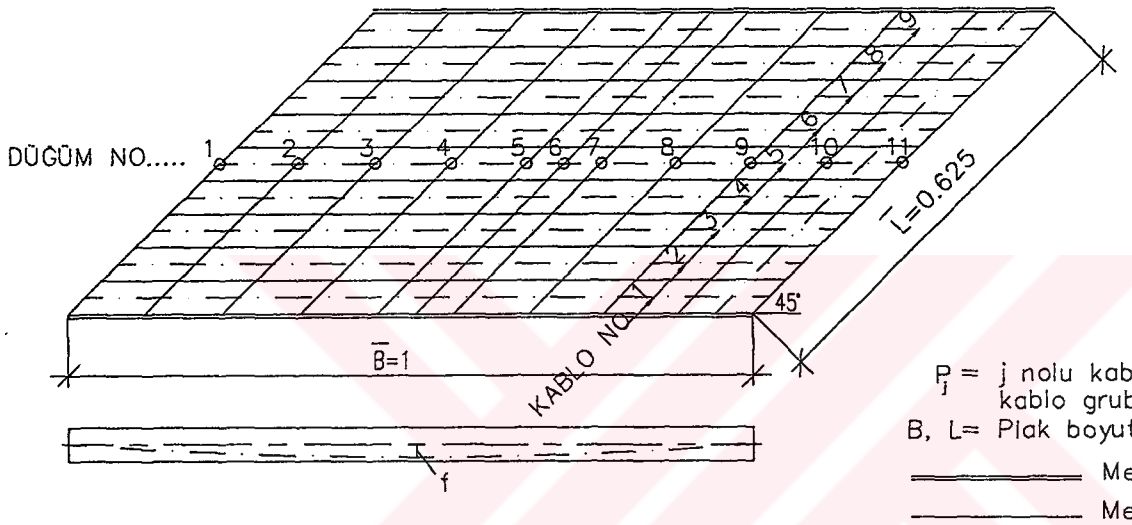
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	4.04107	1.40950	-0.80503	-3.77350	0.98233	3.65675	-0.53322	-0.75302	-0.88888	3.33580
2	0.71255	0.42091	0.33892	0.20630	1.07469	-0.43747	-1.57079	-0.03973	-0.08164	0.62365
3	0.15328	0.08110	0.40589	0.83136	0.56431	1.52140	0.44495	-1.43184	-0.53288	2.03750
4	0.32727	0.07789	0.36808	0.72922	0.16468	0.82676	1.71956	0.05790	-1.39428	2.87708
5	1.13655	0.37743	0.24360	0.39441	0.17231	-0.08664	0.60565	0.53806	-1.02421	2.35717
6	0.49513	0.61312	0.16962	0.03296	0.18571	0.04840	0.17499	0.59303	0.45808	2.77105
7	-0.95424	0.55541	0.60186	-0.09570	0.17089	0.39631	0.24213	0.37044	1.09543	2.38255
8	-1.34965	0.07886	1.71689	0.80907	0.15824	0.73109	0.36966	0.08226	0.32782	2.92427
9	-0.50698	-1.41304	0.45661	1.50898	0.55238	0.83642	0.41365	0.09335	0.17235	2.11373
10	-0.07090	-0.02978	-1.54588	-0.41946	1.07418	0.21211	0.35307	0.43962	0.74340	0.75633
11	-0.88119	-0.74505	-0.51215	3.69750	0.99453	-3.77985	-0.78930	1.43094	4.07640	3.49175

N452B — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N452B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

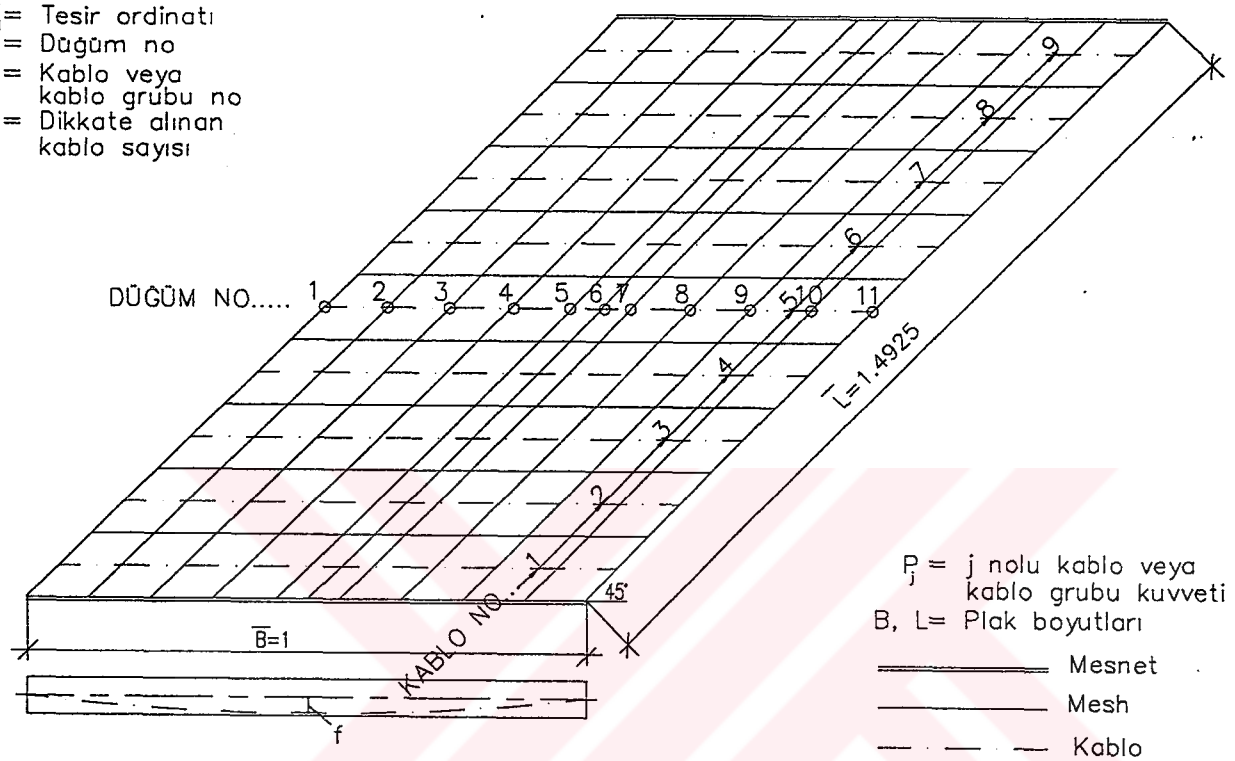
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.32970	0.39550	-1.68163	-7.29900	-3.94563	2.82400	1.34858	0.90986	0.73167	-4.38735
2	0.11605	-0.30321	-0.88038	-0.82614	-0.60956	-0.21790	0.15486	0.11068	0.42729	-2.02833
3	-0.64626	-0.36734	-0.29478	-0.32592	-0.01121	0.11594	0.25430	0.12900	-0.48734	-1.63361
4	-0.71962	-0.30628	-0.22578	-0.20703	0.22866	0.16119	-0.36000	-0.12159	-0.15414	-1.70461
5	-0.91610	-0.32098	-0.13147	-0.10898	0.09215	0.26575	0.01063	-0.22389	0.00636	-1.32653
6	-0.55675	-0.27817	0.02725	0.09954	0.01037	0.09569	0.02443	-0.27530	-0.54223	-1.39518
7	-0.02633	-0.23191	0.01141	0.27025	0.09345	-0.11015	-0.13088	-0.31713	-0.89563	-1.33690
8	-0.17471	-0.13018	-0.36064	0.16745	0.23268	-0.20745	-0.22605	-0.30743	-0.71750	-1.72381
9	-0.49822	0.12149	0.24991	0.11876	-0.00900	-0.32760	-0.29727	-0.37196	-0.65339	-1.66728
10	0.42256	0.10721	0.14693	-0.22490	-0.60953	-0.82714	-0.88594	-0.31089	0.10317	-2.07850
11	0.72722	0.90578	1.34021	2.80350	-3.96523	-7.30775	-1.68949	0.38607	2.31560	-4.48390

N453B — m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f/B$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 0.67$	Enine kablo	N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

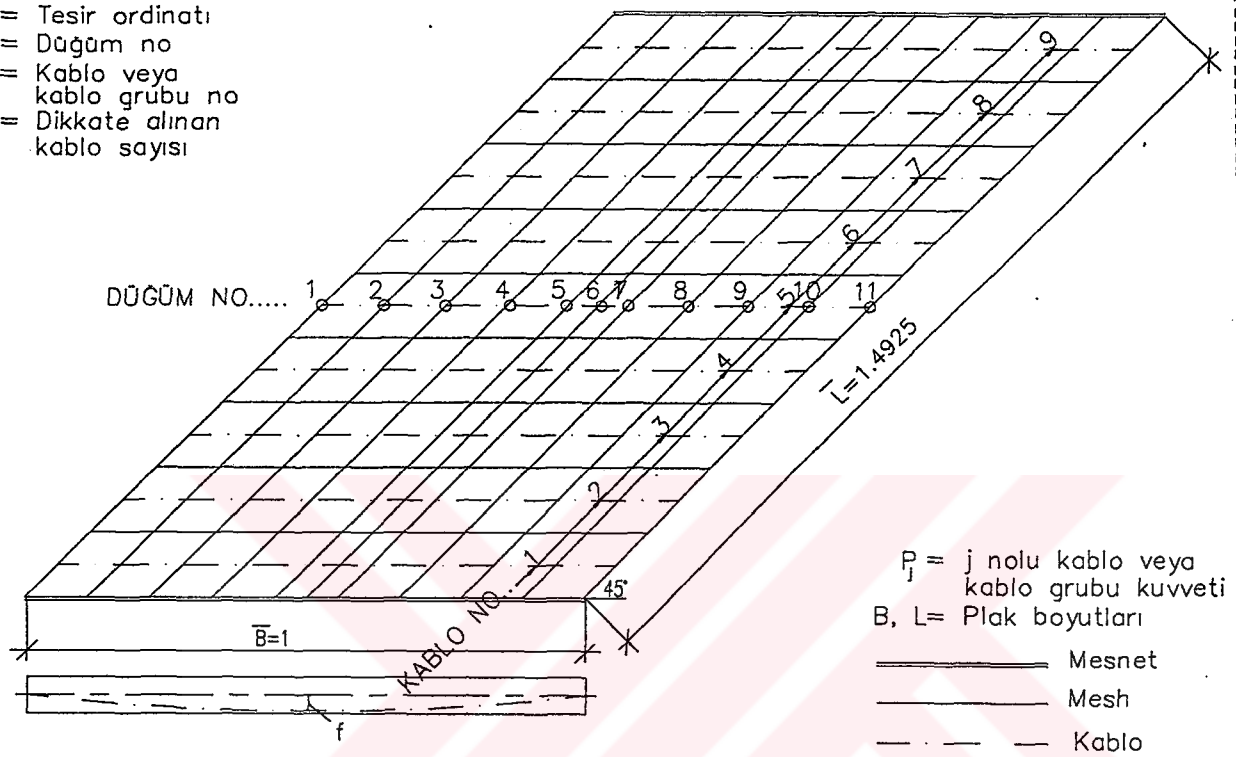
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.03259	0.06048	0.00576	-0.08078	-0.22738	-0.17348	0.03562	0.08117	0.04080	-0.22522
2	0.03298	0.06026	0.01602	-0.08422	-0.16542	-0.09549	0.04109	0.08667	0.04255	-0.06555
3	0.04463	0.09577	0.07656	-0.00425	-0.08882	-0.07330	0.02314	0.07866	0.04138	0.19378
4	0.05258	0.11948	0.12505	0.06877	0.00165	0.00276	0.05394	0.08638	0.04417	0.55478
5	0.04846	0.10628	0.10101	0.07550	0.07092	0.09673	0.12366	0.11966	0.05412	0.79634
6	0.05201	0.11518	0.11544	0.07883	0.05310	0.07875	0.11535	0.11513	0.05199	0.77578
7	0.05409	0.11953	0.12341	0.09633	0.07046	0.07510	0.10070	0.10610	0.04840	0.79414
8	0.04417	0.08639	0.05396	0.00281	0.00173	0.06885	0.12510	0.11950	0.05258	0.55509
9	0.04139	0.07867	0.02315	-0.07326	-0.08876	-0.00420	0.07658	0.09579	0.04464	0.19399
10	0.04255	0.08667	0.04109	-0.09548	-0.16539	-0.08419	0.01603	0.06027	0.03298	-0.06546
11	0.04080	0.08117	0.03562	-0.17347	-0.22738	-0.08078	0.00576	0.06048	0.03259	-0.22521

N453B — m22 TESİR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Enine kablo	N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

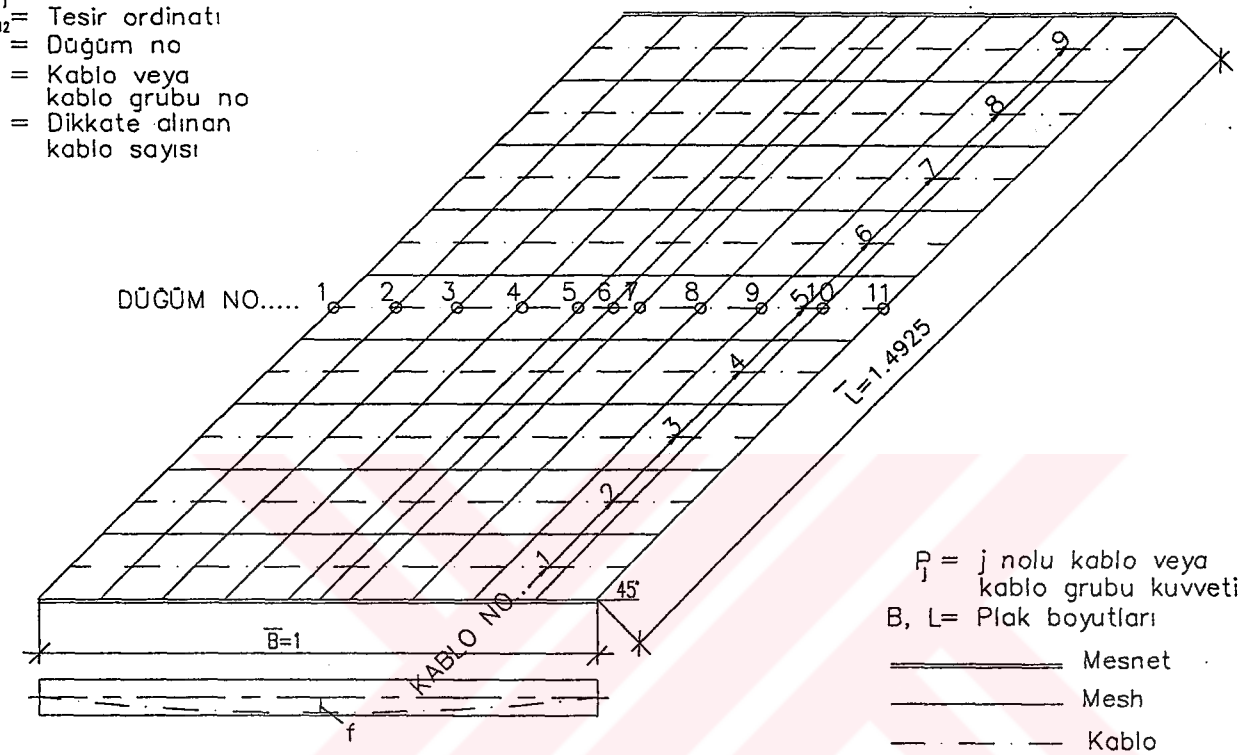
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.35142	-0.97715	-1.42950	-1.63105	-1.32740	-0.80400	-0.49037	-0.27292	-0.08638	-7.37020
2	-0.32894	-0.93620	-1.42113	-1.73403	-1.65045	-1.16078	-0.68565	-0.37301	-0.11784	-8.40805
3	-0.31317	-0.91351	-1.43938	-1.85203	-1.90090	-1.44763	-0.88921	-0.48237	-0.15294	-9.39113
4	-0.29234	-0.87308	-1.42808	-1.90930	-2.06143	-1.68010	-1.09000	-0.59996	-0.19063	-10.12482
5	-0.26207	-0.80148	-1.36435	-1.91102	-2.13455	-1.82025	-1.25735	-0.71689	-0.23135	-10.49925
6	-0.24765	-0.76409	-1.31560	-1.89013	-2.18173	-1.88983	-1.31532	-0.76394	-0.24761	-10.61625
7	-0.23131	-0.71674	-1.25703	-1.81978	-2.13405	-1.91063	-1.36408	-0.80132	-0.26202	-10.49700
8	-0.19065	-0.60001	-1.09008	-1.68025	-2.06145	-1.90923	-1.42800	-0.87302	-0.29232	-10.12530
9	-0.15295	-0.48239	-0.88926	-1.44770	-1.90088	-1.85200	-1.43933	-0.91349	-0.31316	-9.39113
10	-0.11784	-0.37302	-0.68566	-1.16080	-1.65048	-1.73403	-1.42110	-0.93619	-0.32893	-8.40808
11	-0.08638	-0.27292	-0.49036	-0.80402	-1.32740	-1.63105	-1.42950	-0.97714	-0.35142	-7.37025

N453B — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f/B$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Enine kablo	N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

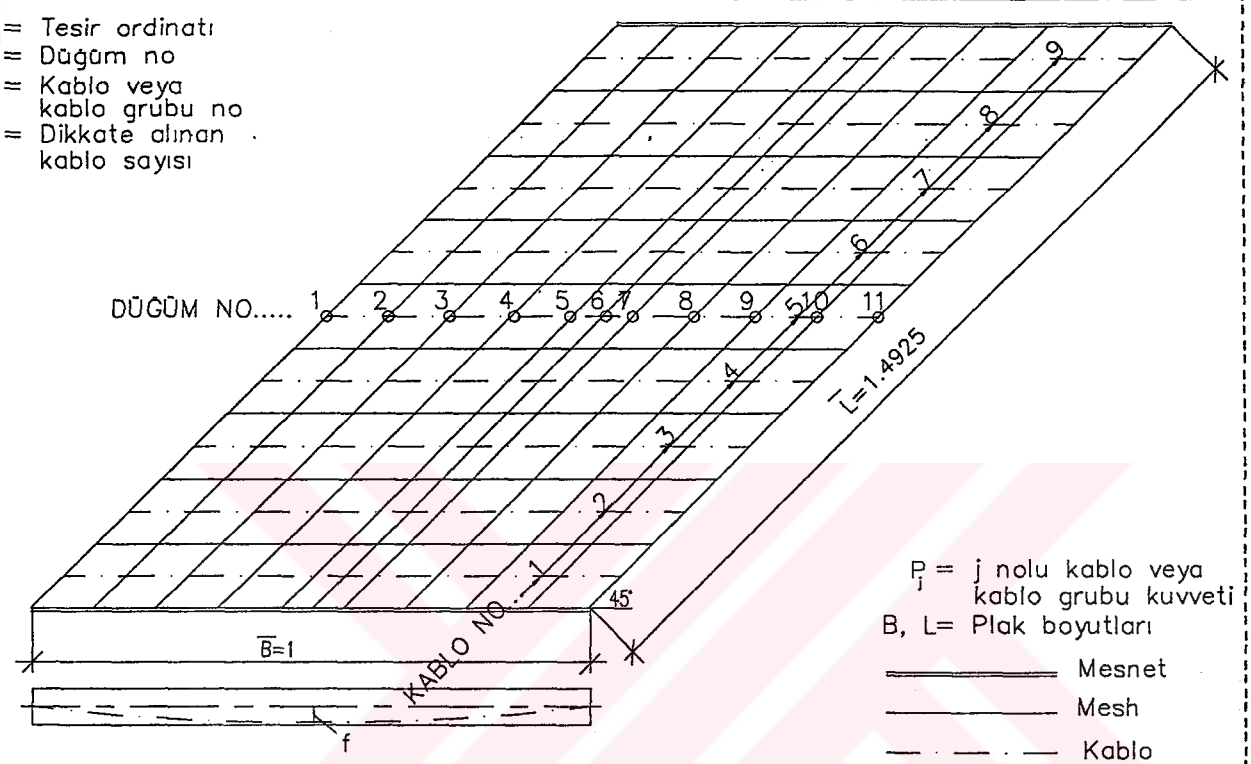
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.16324	-0.47214	-0.72261	-0.89169	-0.72406	-0.38212	-0.19625	-0.07801	-0.01781	-3.64790
2	-0.13895	-0.40129	-0.61348	-0.74370	-0.67983	-0.43189	-0.20714	-0.07884	-0.01632	-3.31143
3	-0.11443	-0.33504	-0.51606	-0.62964	-0.61349	-0.43179	-0.21880	-0.08321	-0.01691	-2.95935
4	-0.08832	-0.26843	-0.43262	-0.53850	-0.55125	-0.43619	-0.25315	-0.10671	-0.02449	-2.69968
5	-0.06099	-0.19899	-0.34784	-0.47048	-0.51596	-0.44950	-0.30367	-0.15011	-0.04062	-2.53815
6	-0.04984	-0.17262	-0.32082	-0.45646	-0.51669	-0.45617	-0.32057	-0.17246	-0.04979	-2.51540
7	-0.04078	-0.15055	-0.30437	-0.45038	-0.51692	-0.47133	-0.34842	-0.19933	-0.06110	-2.54320
8	-0.02452	-0.10681	-0.25330	-0.43637	-0.55130	-0.53838	-0.43249	-0.26832	-0.08828	-2.69973
9	-0.01692	-0.08326	-0.21889	-0.43192	-0.61352	-0.62955	-0.51596	-0.33498	-0.11440	-2.95940
10	-0.01633	-0.07886	-0.20717	-0.43194	-0.67984	-0.74366	-0.61344	-0.40126	-0.13894	-3.31145
11	-0.01781	-0.07801	-0.19625	-0.38212	-0.72406	-0.89168	-0.72260	-0.47213	-0.16324	-3.64790

N453B — sil TESIR SAYILARI

$$S_{ii}^{i} = \sum_{j=1}^{n} s_{ii}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{ii}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$	Enine kablo	N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

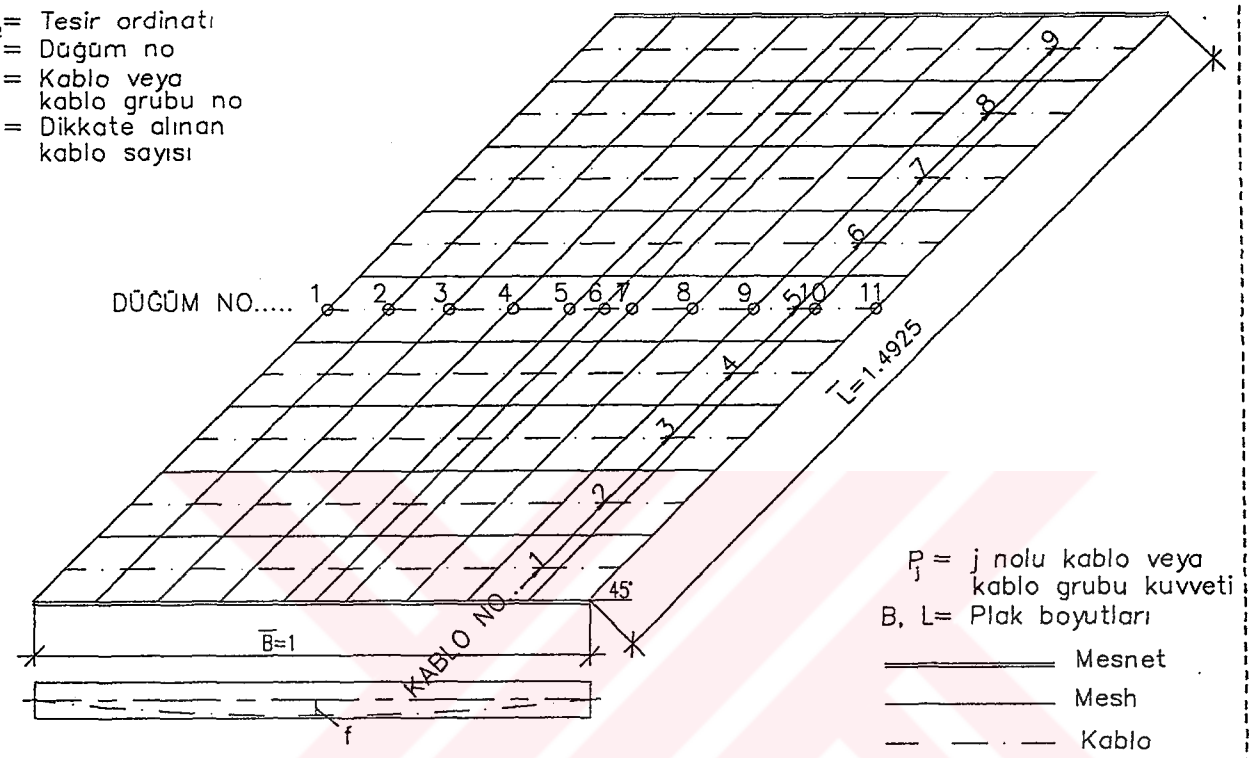
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.11995	0.06892	-0.62979	-1.87900	-0.93427	0.41350	-0.10948	-0.03174	-0.00090	-1.98278
2	0.65432	-0.07068	-0.80253	-2.07895	-2.31029	-0.75388	0.04050	-0.06789	-0.09341	-5.48275
3	0.41573	-0.28075	-1.06675	-2.09655	-3.12203	-1.95940	-0.23679	-0.03538	-0.00240	-8.38430
4	0.25902	-0.34784	-1.15573	-1.91423	-2.49215	-1.90665	-0.67309	-0.16062	0.02561	-8.36568
5	0.19757	-0.31558	-1.16413	-1.91278	-2.21903	-1.90078	-0.92960	-0.22490	-0.07922	-8.54848
6	0.09798	-0.25228	-1.09055	-1.92368	-2.19115	-1.92413	-1.09078	-0.25198	0.09901	-8.52753
7	-0.07928	-0.22512	-0.92963	-1.90073	-2.21908	-1.91265	-1.16370	-0.31533	0.19721	-8.54828
8	0.02542	-0.16069	-0.67329	-1.90655	-2.49185	-1.91420	-1.15578	-0.34791	0.25894	-8.36595
9	-0.00255	-0.03550	-0.23702	-1.95940	-3.12175	-2.09653	-1.06687	-0.28082	0.41574	-8.38465
10	-0.09346	-0.06799	0.04043	-0.75421	-2.31064	-2.07898	-0.80261	-0.07074	0.65433	-5.48388
11	-0.00098	-0.03182	-0.10971	0.41293	-0.93480	-1.87920	-0.62987	0.06886	1.11985	-1.98478

N453B — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.67$ | Enine kablo | N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

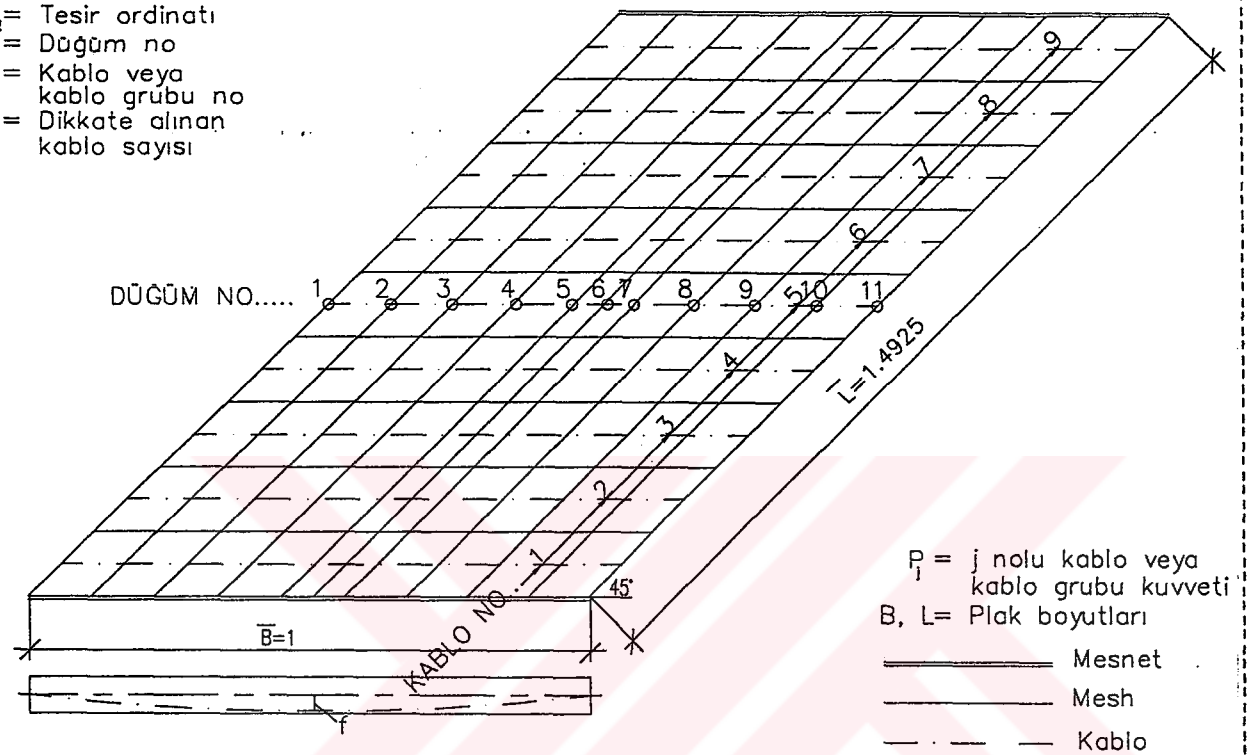
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.29533	0.26269	-0.13669	-0.45970	0.85295	0.73267	-0.58560	0.13639	0.35822	3.45625
2	0.01908	0.17949	0.07193	-0.14999	-0.34136	0.71933	0.86765	-0.26260	-0.37994	0.72361
3	-0.40965	-0.03508	0.25401	0.54784	-0.18354	-0.40119	0.60756	0.59916	0.00506	0.98416
4	-0.37958	-0.23326	0.13978	0.61794	0.45130	-0.38708	-0.36669	0.26550	0.48940	0.59730
5	0.08953	-0.36278	-0.25724	0.29798	0.64454	0.25030	-0.27995	-0.25156	-0.11697	0.01388
6	0.26521	-0.16671	-0.23886	0.17867	0.47797	0.17828	-0.23972	-0.16791	0.26389	0.55081
7	-0.11971	-0.25347	-0.28078	0.25079	0.64459	0.29712	-0.25787	-0.36167	0.09325	0.01226
8	0.48820	0.26462	-0.36688	-0.38623	0.45176	0.61746	0.13916	-0.23347	-0.37880	0.59579
9	0.00463	0.59856	0.60668	-0.40095	-0.18299	0.54750	0.25369	-0.03528	-0.40923	0.98263
10	-0.38008	-0.26271	0.86754	0.71880	-0.34184	-0.14995	0.07199	0.17940	0.01926	0.72245
11	0.35762	0.13590	-0.58635	0.73294	0.85354	-0.45978	-0.13665	0.26256	2.29488	3.45465

N453B — s12 TESIR SAYILARI

$$S_{12}^{i}=\sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}}=0.67$	Enine kablo	N453B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

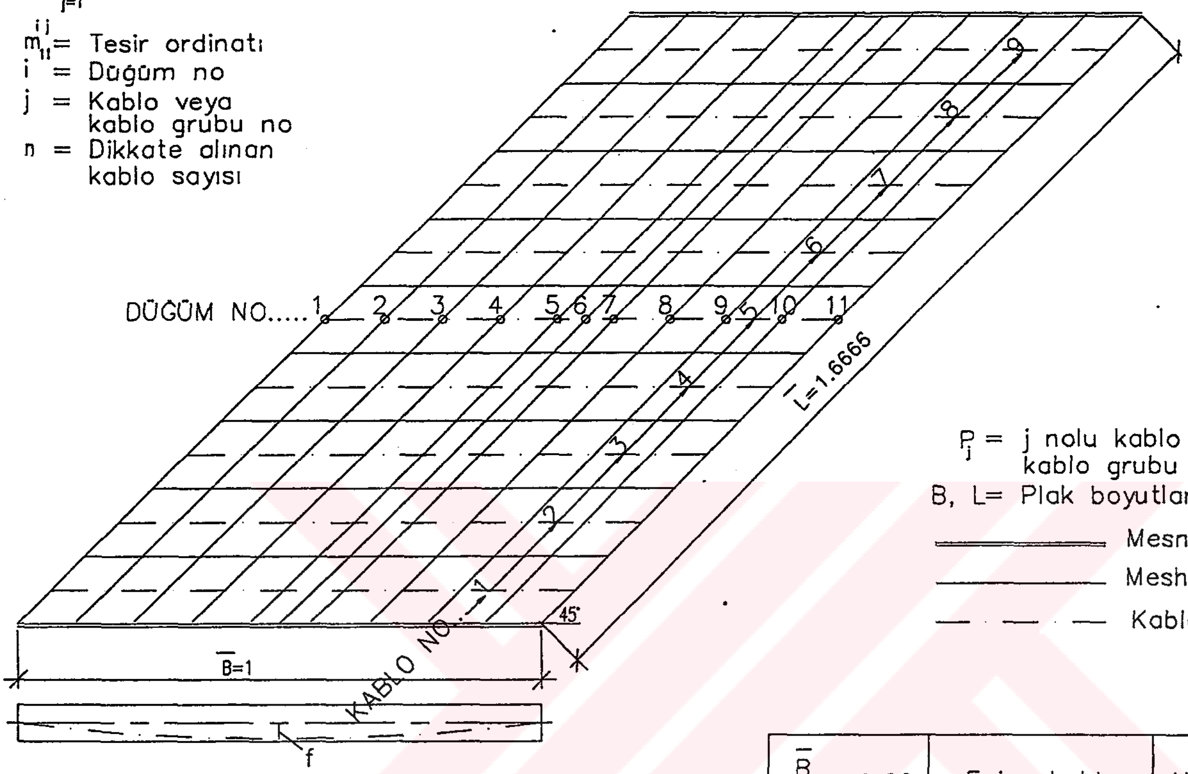
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.41246	0.43224	-0.47052	-4.25645	-2.50860	1.48299	0.35513	0.03364	-0.12676	-4.64580
2	0.47171	0.13816	-0.49842	-1.01723	-0.59751	-0.37330	-0.22069	0.20765	0.19005	-1.69951
3	0.10801	0.06744	-0.18232	-0.41181	0.36544	0.44312	-0.45528	-0.39591	-0.06628	-0.52757
4	-0.21262	0.05362	0.05439	-0.14308	0.09110	0.52496	0.12550	-0.37770	-0.44582	-0.32964
5	-0.51848	0.01244	0.28835	0.14420	0.01248	0.25898	0.25915	-0.13932	-0.32374	-0.00593
6	-0.55552	-0.11495	0.28724	0.24648	0.07486	0.24733	0.28803	-0.11482	-0.55635	-0.19769
7	-0.32394	-0.13924	0.25968	0.26010	0.01374	0.14492	0.28836	0.01219	-0.51818	-0.00239
8	-0.44553	-0.37774	0.12534	0.52465	0.09079	-0.14321	0.05440	0.05390	-0.21196	-0.32933
9	-0.06583	-0.39584	-0.45521	0.44295	0.36514	-0.41190	-0.18234	0.06763	0.10844	-0.52695
10	0.19041	0.20785	-0.22081	-0.37316	-0.59717	-1.01722	-0.49847	0.13822	0.47193	-1.69843
11	-0.12650	0.03386	0.35552	1.48311	-2.50865	-4.25635	-0.47051	0.43230	0.41269	-4.64460

N454B

m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

$\bar{B}/\bar{L}$ = 0.60	Enine kablo	N454B

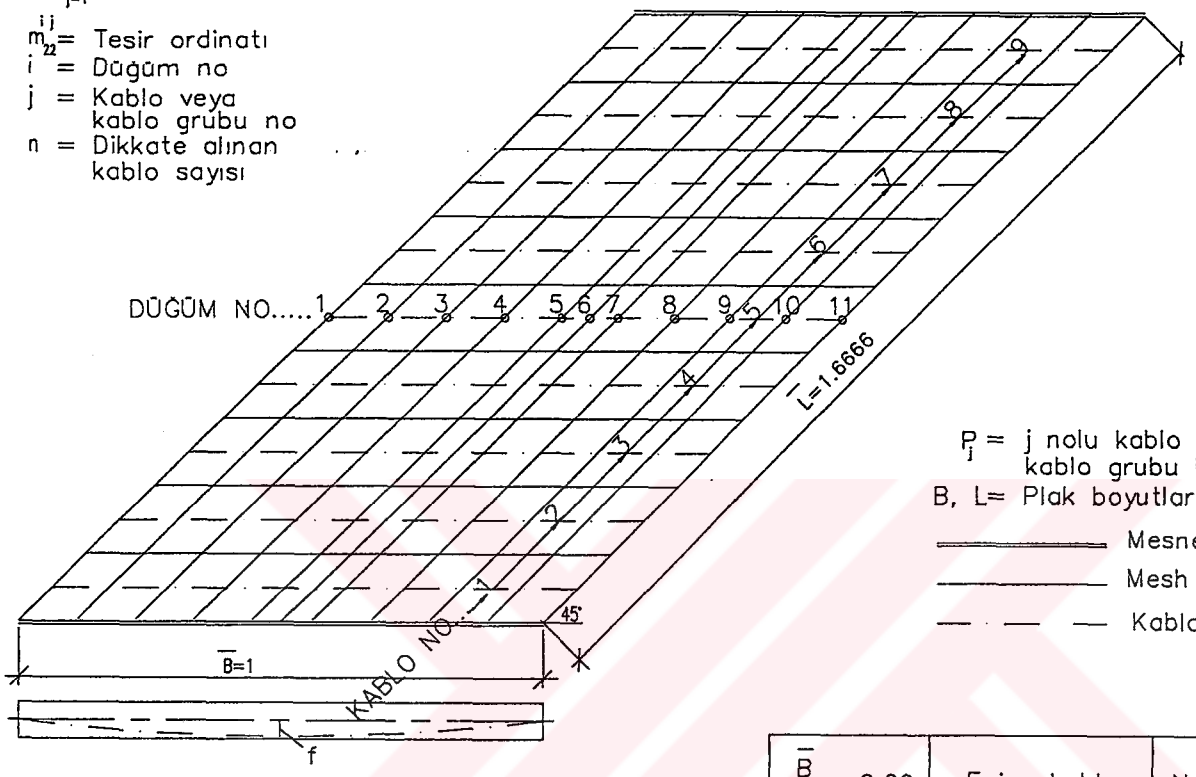
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.03416	0.06094	0.00102	-0.09388	-0.23094	-0.14796	0.07790	0.11963	0.05659	-0.12255
2	0.03433	0.06052	0.01086	-0.09456	-0.16954	-0.07192	0.08654	0.12719	0.05902	0.04244
3	0.04640	0.09593	0.07037	-0.01675	-0.09979	-0.06029	0.06289	0.11894	0.05797	0.27567
4	0.05633	0.12292	0.11873	0.05503	-0.01273	0.00362	0.08079	0.12121	0.05966	0.60556
5	0.05634	0.11912	0.10283	0.06260	0.05598	0.09331	0.13803	0.14476	0.06660	0.83957
6	0.06238	0.13411	0.12431	0.06991	0.03466	0.06998	0.12442	0.13419	0.06241	0.81638
7	0.06658	0.14470	0.13796	0.09323	0.05597	0.06270	0.10294	0.11920	0.05638	0.83966
8	0.05964	0.12116	0.08072	0.00360	-0.01262	0.05521	0.11887	0.12303	0.05637	0.60598
9	0.05796	0.11891	0.06282	-0.06032	-0.09967	-0.01654	0.07053	0.09604	0.04644	0.27616
10	0.05902	0.12718	0.08650	-0.07196	-0.16940	-0.09431	0.01105	0.06063	0.03437	0.04308
11	0.05657	0.11958	0.07779	-0.14816	-0.23102	-0.09377	0.00113	0.06103	0.03419	-0.12265

N454B

m22 TESİR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

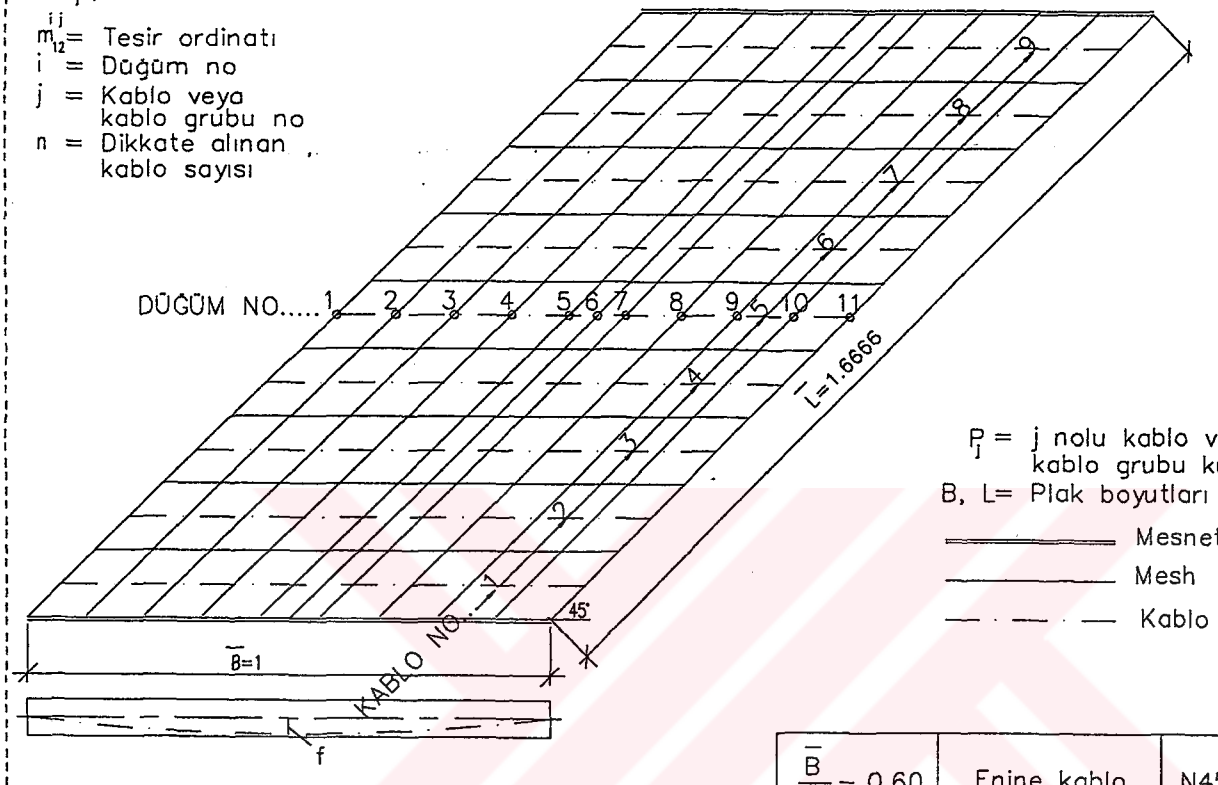
$\frac{B}{L} = 0.60$	Enine kablo	N454B

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.38525	-1.08035	-1.59655	-1.83790	-1.50985	-0.93337	-0.58415	-0.32960	-0.10546	-8.36250
2	-0.36086	-1.03545	-1.58678	-1.94598	-1.84980	-1.30823	-0.79092	-0.43915	-0.14044	-9.45745
3	-0.34283	-1.00656	-1.59918	-2.06633	-2.11658	-1.80993	-1.00033	-0.55418	-0.17804	-10.47400
4	-0.32050	-0.96066	-1.58133	-2.12405	-2.29213	-1.86283	-1.21202	-0.67591	-0.21746	-11.24700
5	-0.28906	-0.88337	-1.50675	-2.12210	-2.37670	-2.02123	-1.39245	-0.79731	-0.25902	-11.64800
6	-0.27475	-0.84413	-1.45348	-2.09365	-2.41880	-2.09323	-1.45318	-0.84396	-0.27470	-11.75000
7	-0.25907	-0.79748	-1.39275	-2.02168	-2.37675	-2.12170	-1.50645	-0.88320	-0.28901	-11.64825
8	-0.21751	-0.67608	-1.21237	-1.86335	-2.29230	-2.12380	-1.58113	-0.96050	-0.32045	-11.24725
9	-0.17809	-0.55432	-1.00065	-1.61048	-2.11682	-2.06612	-1.59900	-1.00642	-0.34279	-10.47475
10	-0.14047	-0.43927	-0.79117	-1.30873	-1.85013	-1.94593	-1.58673	-1.03535	-0.36083	-9.45868
11	-0.10548	-0.32969	-0.58432	-0.93376	-1.51025	-1.83805	-1.59655	-1.08025	-0.38521	-8.36350

N454B — m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

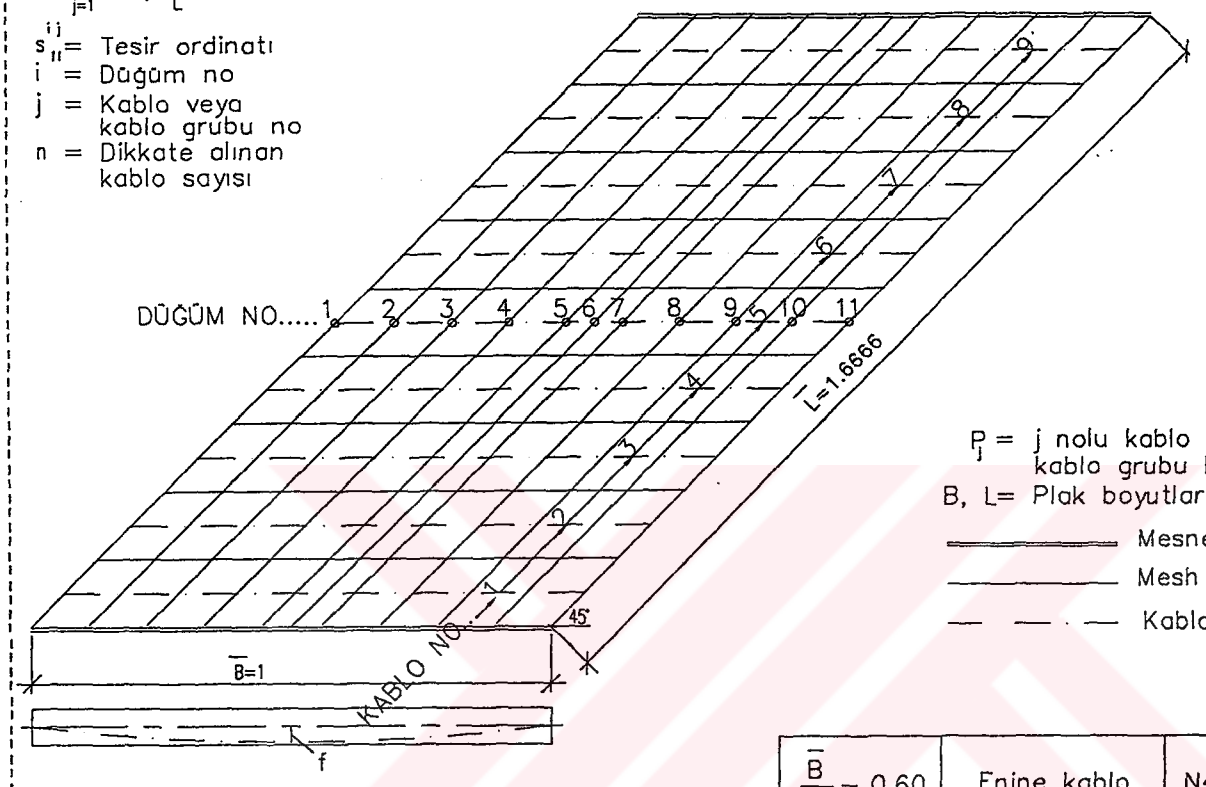
$\frac{B}{L}$ = 0.60	Enine kablo	N454B

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.17985	-0.52469	-0.81093	-1.00256	-0.81835	-0.43698	-0.22292	-0.08723	-0.01945	-4.10295
2	-0.15594	-0.45666	-0.70870	-0.86494	-0.78845	-0.50168	-0.24467	-0.09471	-0.02023	-3.83595
3	-0.13184	-0.39291	-0.61885	-0.76266	-0.74091	-0.52185	-0.27014	-0.10845	-0.02414	-3.57175
4	-0.10621	-0.32800	-0.54099	-0.68425	-0.70086	-0.55348	-0.32563	-0.14375	-0.03579	-3.41895
5	-0.07855	-0.25731	-0.45550	-0.62251	-0.68348	-0.59167	-0.39744	-0.19900	-0.05552	-3.34098
6	-0.06637	-0.22709	-0.42397	-0.60481	-0.68302	-0.60460	-0.42376	-0.22693	-0.06631	-3.32685
7	-0.05558	-0.19917	-0.39768	-0.59191	-0.68353	-0.62235	-0.45532	-0.25717	-0.07850	-3.34120
8	-0.03584	-0.14390	-0.32589	-0.55381	-0.70100	-0.68417	-0.54086	-0.32788	-0.10616	-3.41950
9	-0.02418	-0.10859	-0.27038	-0.52221	-0.74112	-0.76263	-0.61877	-0.39282	-0.13180	-3.57250
10	-0.02026	-0.09483	-0.24489	-0.50206	-0.78875	-0.86498	-0.70866	-0.45660	-0.15591	-3.83693
11	-0.01947	-0.08730	-0.22306	-0.43728	-0.81858	-1.00258	-0.81086	-0.52462	-0.17981	-4.10355

N454B — s11 TESIR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları
Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N454B

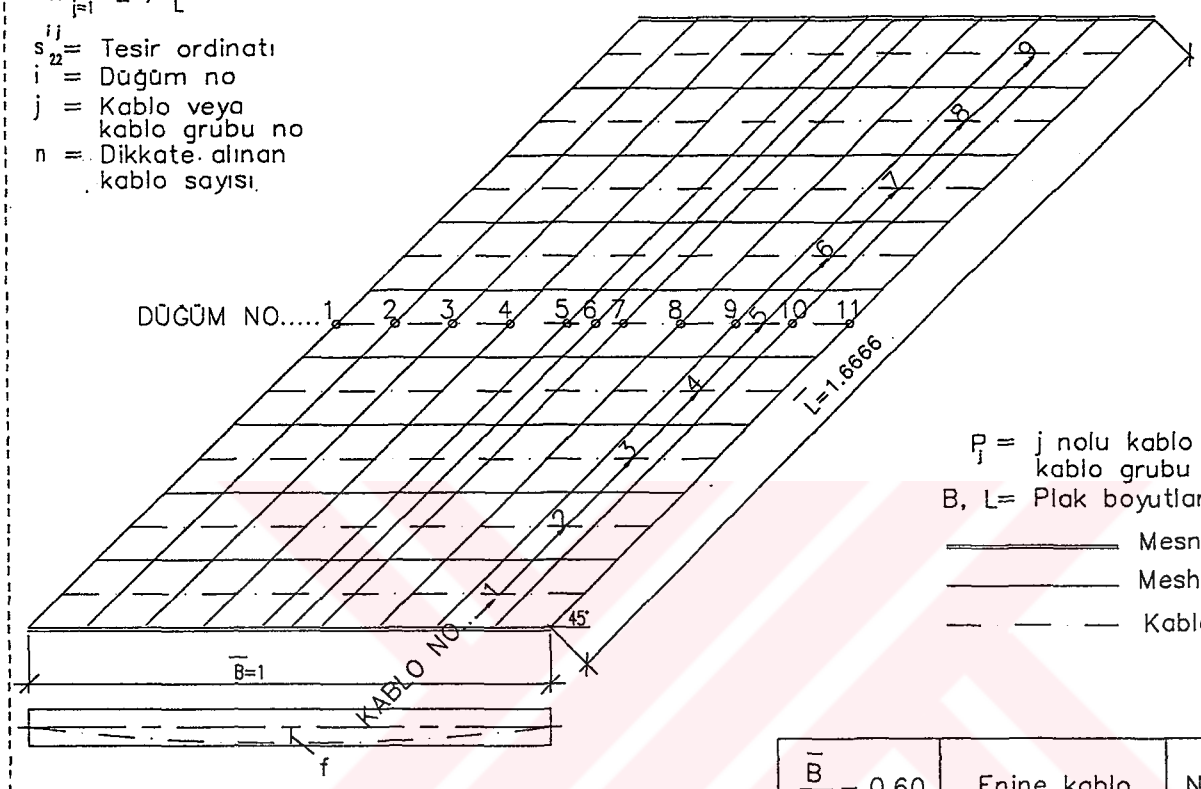
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.95757	0.08721	-0.41979	-1.44910	-0.51369	0.59617	-0.05795	-0.04196	0.00032	-0.84125
2	0.53394	-0.00805	-0.62534	-1.80393	-1.91409	-0.53047	0.05750	-0.04186	-0.08469	-4.41694
3	0.36567	-0.16536	-0.89742	-1.95450	-2.93185	-1.77270	-0.16197	0.01137	0.05620	-7.45058
4	0.24100	-0.20088	-0.97407	-1.81568	-2.44045	-1.73408	-0.51604	-0.12866	0.07307	-7.49580
5	0.17329	-0.19305	-0.96460	-1.80203	-2.17923	-1.75930	-0.73489	-0.14026	-0.06100	-7.66108
6	0.09050	-0.14158	-0.88513	-1.81145	-2.15248	-1.81088	-0.88443	-0.14145	0.09027	-7.64660
7	-0.06078	-0.14023	-0.73549	-1.75998	-2.17918	-1.80145	-0.96391	-0.19285	0.17289	-7.66095
8	0.07306	-0.12849	-0.51645	-1.73480	-2.44033	-1.81493	-0.97339	-0.20070	0.24033	-7.49570
9	0.05579	0.01122	-0.16187	-1.77397	-2.93255	-1.95345	-0.89672	-0.16516	0.36498	-7.45178
10	-0.08529	-0.04238	0.05716	-0.53310	-1.91506	-1.80203	-0.62486	-0.00793	0.53311	-4.42041
11	-0.00031	-0.04254	-0.05963	0.59285	-0.51283	-1.44610	-0.41950	0.08720	0.95655	-0.84431

N454B

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N454B

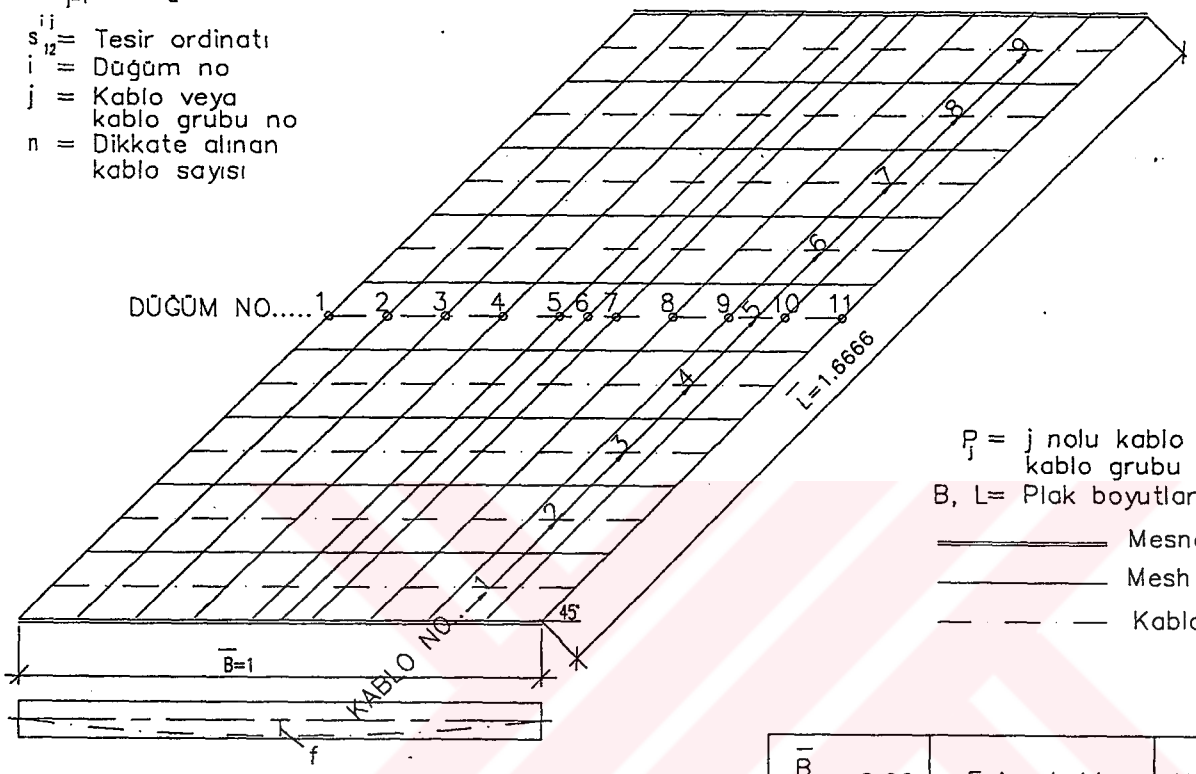
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.18841	0.14510	0.12607	-0.10060	0.66295	0.42505	-0.54965	0.14654	0.40210	3.44590
2	-0.06221	0.16122	0.12274	-0.16318	-0.29837	0.79790	0.84154	-0.31347	-0.45965	0.62651
3	-0.37935	-0.06456	0.19871	0.50150	-0.27995	-0.39950	0.67387	0.60541	0.00893	0.86508
4	-0.27932	-0.24717	0.05829	0.56229	0.39840	-0.43144	-0.34628	0.28303	0.49448	0.49232
5	0.07953	-0.39862	-0.34257	0.27795	0.65448	0.19396	-0.28649	-0.16690	-0.03820	-0.02686
6	0.31729	-0.09980	-0.31367	0.08976	0.45765	0.08937	-0.31437	-0.10081	0.31517	0.44061
7	-0.03664	-0.16590	-0.28552	0.19484	0.65488	0.27794	-0.34292	-0.39962	0.07700	-0.02593
8	0.49456	0.28400	-0.34489	-0.42976	0.39967	0.56265	0.05814	-0.24835	-0.28274	0.49327
9	0.00684	0.60516	0.67462	-0.39740	-0.27848	0.50140	0.19864	-0.06566	-0.38305	0.86207
10	-0.46264	-0.31545	0.84038	0.79696	-0.30082	-0.16509	0.12271	0.16054	-0.06583	0.61079
11	0.39910	0.14377	-0.55455	0.42314	0.66424	-0.10065	0.12622	0.14439	2.18470	3.43015

N454B

s12 TESİR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

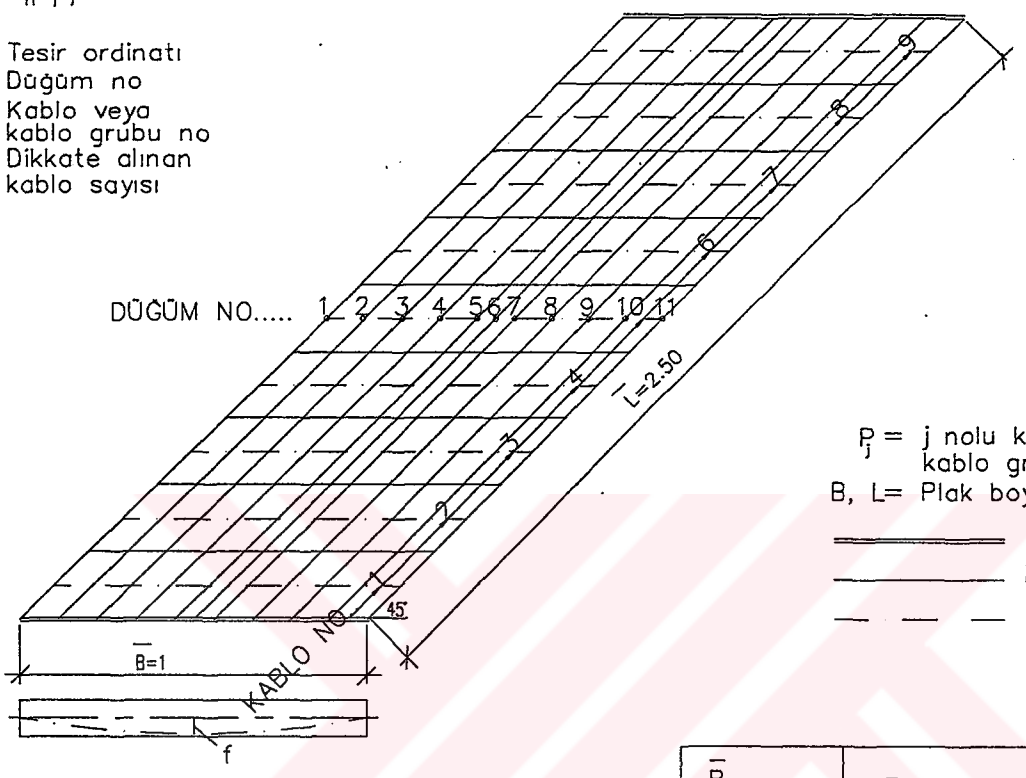
$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N454B

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.10806	0.47171	-0.41573	-3.93437	-2.30085	1.33400	0.25922	-0.00699	-0.14552	-4.63025
2	0.35774	0.16212	-0.39990	-0.95910	-0.62638	-0.35523	-0.21245	0.17723	0.19792	-1.65808
3	0.07099	0.08873	-0.12378	-0.38771	0.35916	0.38886	-0.44345	-0.34876	-0.09195	-0.48793
4	-0.19183	0.04647	0.07443	-0.12866	0.11255	0.46845	0.04829	-0.32180	-0.37337	-0.26548
5	-0.38988	0.00634	0.26733	0.12702	-0.00626	0.23634	0.16757	-0.17496	-0.21782	0.01569
6	-0.43684	-0.16022	0.23882	0.24998	0.06316	0.25003	0.23884	-0.15993	-0.43592	-0.15208
7	-0.21852	-0.17534	0.16748	0.23613	-0.00647	0.12692	0.26725	0.00661	-0.38877	0.01531
8	-0.37340	-0.32222	0.04798	0.46305	0.11188	-0.12894	0.07434	0.04685	-0.19034	-0.26581
9	-0.09121	-0.34875	-0.44348	0.38847	0.35851	-0.38791	-0.12377	0.08913	0.07251	-0.48652
10	0.19916	0.17808	-0.21225	-0.35467	-0.62567	-0.95881	-0.39958	0.16242	0.35926	-1.65207
11	-0.14419	-0.00585	0.26119	1.33705	-2.29600	-3.93101	-0.41537	0.47209	0.10958	-4.61265

N455B — m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

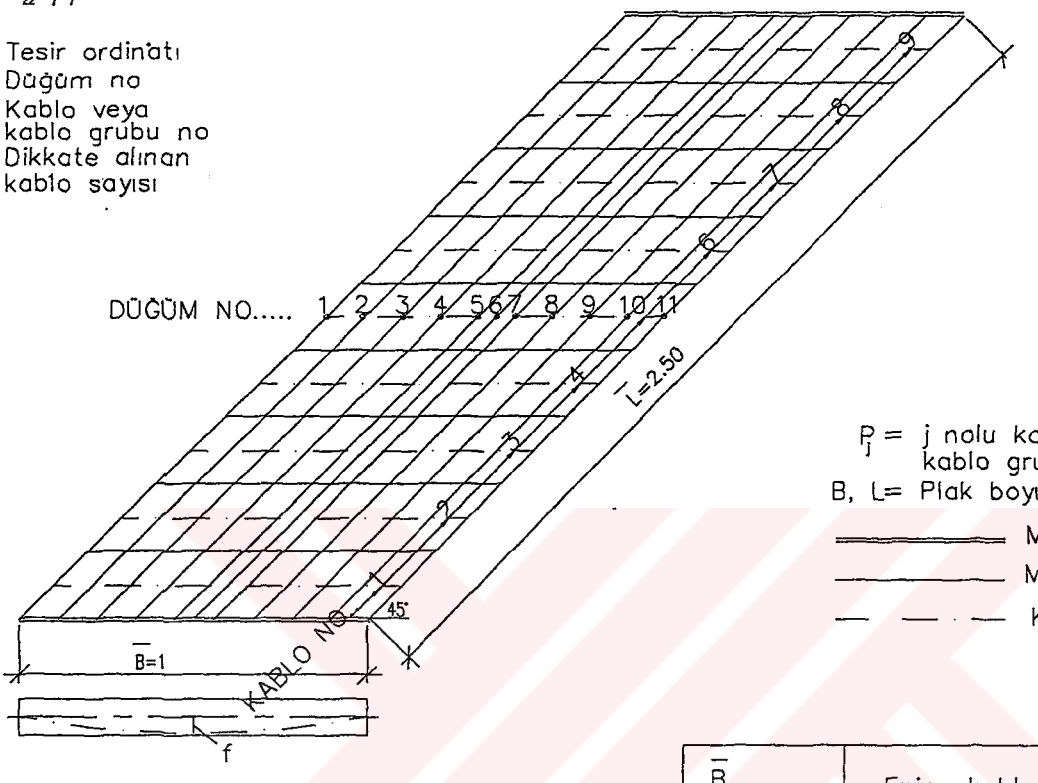
$\frac{B}{L}=0.40$	Enine kablo	N455B

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.04141	0.04975	-0.06610	-0.22056	-0.31305	-0.08113	0.24665	0.28917	0.12833	0.07446
2	0.04036	0.04509	-0.06595	-0.22586	-0.26853	-0.02114	0.25811	0.29651	0.13062	0.18923
3	0.05526	0.08239	-0.01696	-0.17355	-0.25005	-0.06867	0.19882	0.26942	0.12251	0.21918
4	0.07094	0.12000	0.02411	-0.13030	-0.21552	-0.08960	0.14576	0.23858	0.11339	0.27735
5	0.08240	0.14709	0.03775	-0.13483	-0.18486	-0.05833	0.12949	0.21751	0.10666	0.34289
6	0.09510	0.18277	0.06539	-0.10957	-0.21457	-0.10957	0.08539	0.18277	0.09510	0.29283
7	0.10666	0.21751	0.12949	-0.05833	-0.18486	-0.13483	0.03775	0.14709	0.08240	0.34289
8	0.11339	0.23858	0.14576	-0.08960	-0.21552	-0.13030	0.02411	0.12000	0.07094	0.27735
9	0.12251	0.26942	0.19882	-0.06867	-0.25005	-0.17355	-0.01696	0.08239	0.05526	0.21918
10	0.13062	0.29651	0.25811	-0.02113	-0.26853	-0.22586	-0.06595	0.04509	0.04036	0.18923
11	0.12833	0.28917	0.24665	-0.08113	-0.31305	-0.22056	-0.06610	0.04975	0.04141	0.07446

N455B — m22 TESIR SAYILARI

$$M_{22}^{i}=\sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

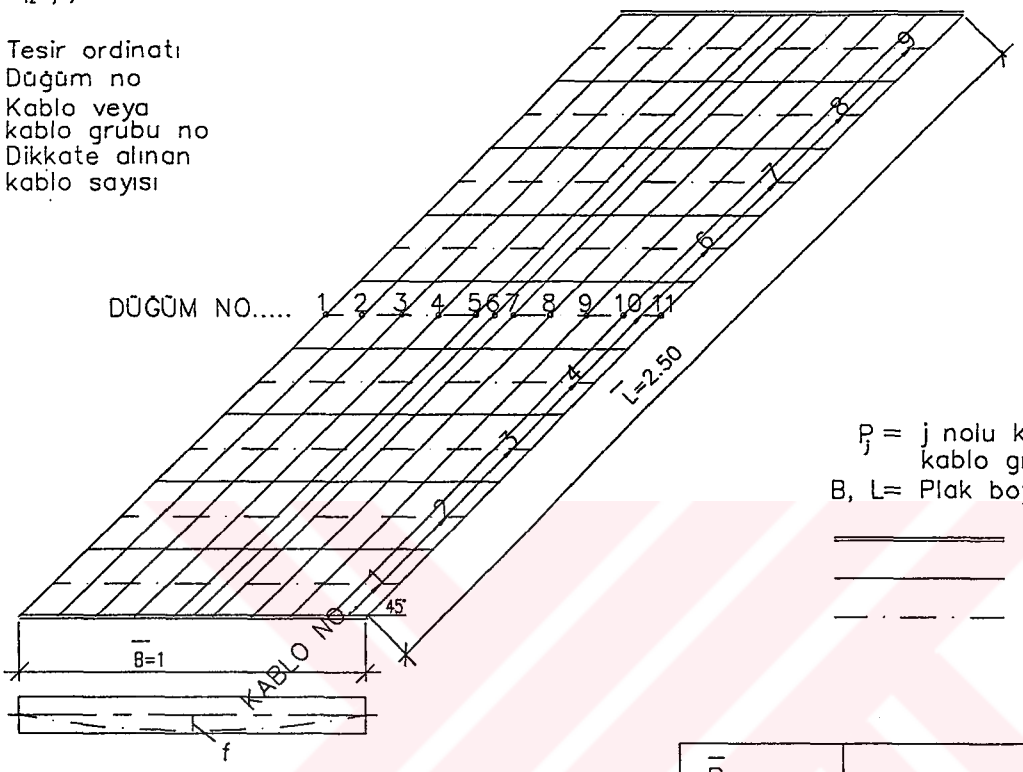
$\frac{B}{L}$ = 0.40	Enine kablo	N455B

DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.53932	-1.57315	-2.44355	-2.93940	-2.54405	-1.71765	-1.16270	-0.68539	-0.22597	-13.83100
2	-0.50330	-1.49020	-2.38403	-3.01755	-2.90115	-2.13275	-1.40313	-0.82244	-0.27135	-14.92575
3	-0.47452	-1.41980	-2.32895	-3.08225	-3.16437	-2.43395	-1.59528	-0.93734	-0.31020	-15.74650
4	-0.44494	-1.33960	-2.24245	-3.07730	-3.33255	-2.69583	-1.79418	-1.04878	-0.34742	-16.32300
5	-0.41131	-1.24180	-2.11125	-3.02010	-3.41850	-2.88565	-1.98260	-1.16123	-0.38513	-16.61775
6	-0.39825	-1.20195	-2.04665	-2.96350	-3.44110	-2.96350	-2.04665	-1.20195	-0.39825	-16.66150
7	-0.38513	-1.16123	-1.98260	-2.88565	-3.41850	-3.02010	-2.11125	-1.24180	-0.41131	-16.61775
8	-0.34742	-1.04878	-1.79418	-2.69583	-3.33255	-3.07730	-2.24245	-1.33960	-0.44494	-16.32300
9	-0.31020	-0.93734	-1.59528	-2.43395	-3.16438	-3.08225	-2.32895	-1.41980	-0.47452	-15.74650
10	-0.27135	-0.82244	-1.40313	-2.13275	-2.90115	-3.01755	-2.38403	-1.49020	-0.50330	-14.92575
11	-0.22597	-0.68539	-1.16270	-1.71765	-2.54405	-2.93940	-2.44355	-1.57315	-0.53932	-13.83100

N455B — m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

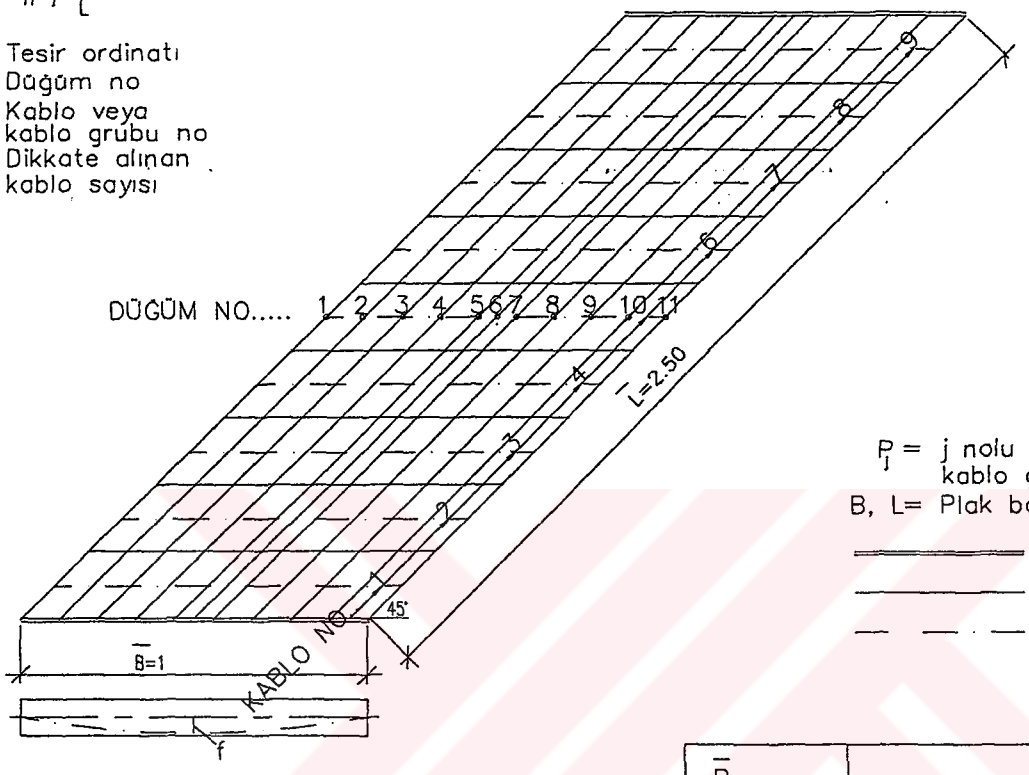
$\frac{B}{L} = 0.40$	Enine kablo	N455B

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.25481	-0.78271	-1.28320	-1.63300	-1.39290	-0.81168	-0.43597	-0.18464	-0.04514	-6.82410
2	-0.22928	-0.71497	-1.19832	-1.53948	-1.43395	-0.95736	-0.52317	-0.23326	-0.06036	-6.89013
3	-0.20385	-0.64772	-1.11735	-1.46978	-1.45790	-1.05864	-0.60555	-0.28661	-0.07812	-6.92552
4	-0.17801	-0.57704	-1.03152	-1.40640	-1.47740	-1.16538	-0.71454	-0.35312	-0.10053	-7.00395
5	-0.15131	-0.50115	-0.93042	-1.33968	-1.49953	-1.27238	-0.83465	-0.42906	-0.12636	-7.08452
6	-0.13878	-0.46514	-0.88471	-1.30700	-1.49730	-1.30700	-0.88471	-0.46514	-0.13878	-7.08850
7	-0.12636	-0.42906	-0.83465	-1.27238	-1.49953	-1.33968	-0.93042	-0.50115	-0.15131	-7.08453
8	-0.10053	-0.35312	-0.71454	-1.16538	-1.47740	-1.40640	-1.03152	-0.57704	-0.17801	-7.00395
9	-0.07812	-0.28661	-0.60555	-1.05864	-1.45790	-1.46978	-1.11735	-0.64772	-0.20385	-6.92553
10	-0.06036	-0.23326	-0.52317	-0.95736	-1.43395	-1.53948	-1.19832	-0.71497	-0.22928	-6.89013
11	-0.04514	-0.18464	-0.43597	-0.81168	-1.39290	-1.63300	-1.28320	-0.78271	-0.25481	-6.82410

N455B — s11 TESIR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları
Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N455B

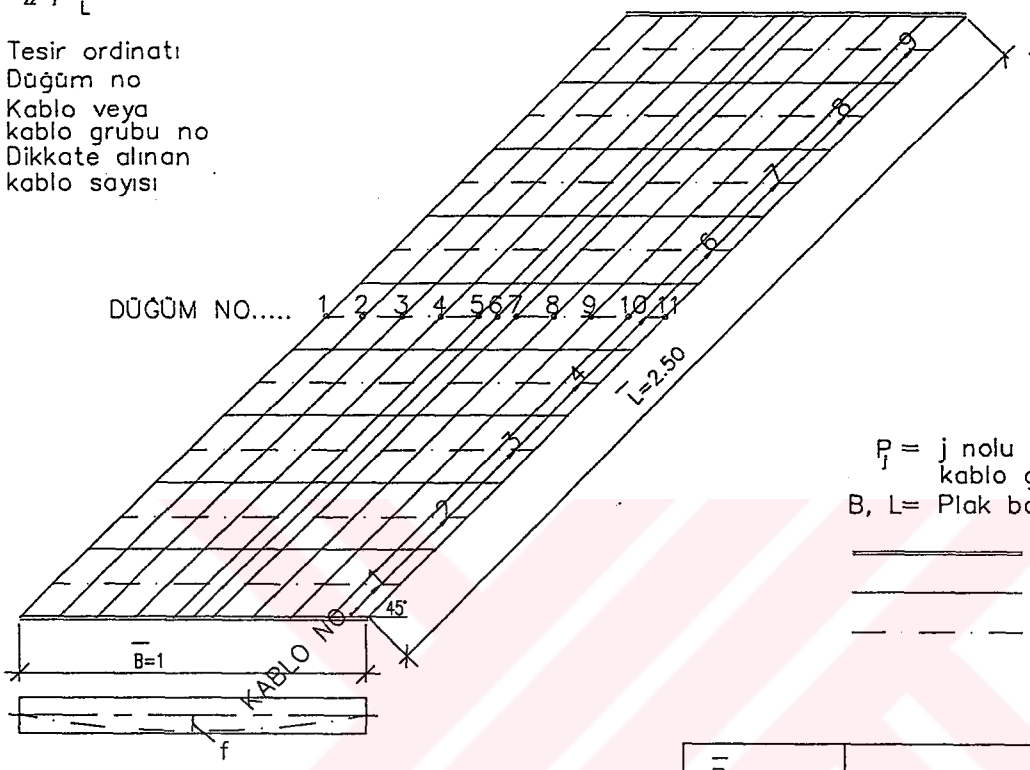
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.48760	0.20941	0.35884	-0.24104	0.37538	0.95855	0.25481	0.03533	-0.00847	2.43045
2	0.09843	0.16759	-0.01173	-0.96422	-0.78706	0.10900	0.09143	0.01671	-0.03000	-1.30987
3	0.07808	0.10750	-0.25995	-1.39053	-2.15728	-1.22960	-0.10571	0.10926	0.18345	-4.66480
4	0.07712	0.07108	-0.31545	-1.34440	-2.11145	-1.17287	-0.12477	-0.08894	0.04935	-4.96035
5	0.01442	0.01001	-0.29238	-1.30455	-2.00375	-1.19545	-0.23492	-0.05442	-0.00987	-5.07090
6	0.02780	-0.01994	-0.29494	-1.26498	-1.97760	-1.26498	-0.29494	-0.01994	0.02780	-5.08170
7	-0.00987	-0.05442	-0.23492	-1.19545	-2.00375	-1.30455	-0.29238	0.01001	0.01442	-5.07090
8	0.04935	-0.08894	-0.12477	-1.17288	-2.11145	-1.34440	-0.31545	0.07108	0.07712	-4.96035
9	0.18345	0.10926	-0.10571	-1.22960	-2.15728	-1.39053	-0.25995	0.10750	0.07808	-4.66480
10	-0.03000	0.01671	0.09143	0.10900	-0.78706	-0.96422	-0.01173	0.16759	0.09843	-1.30988
11	-0.00847	0.03533	0.25481	0.95855	0.37538	-0.24104	0.35884	0.20941	0.48760	2.43045

N455B

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N455B

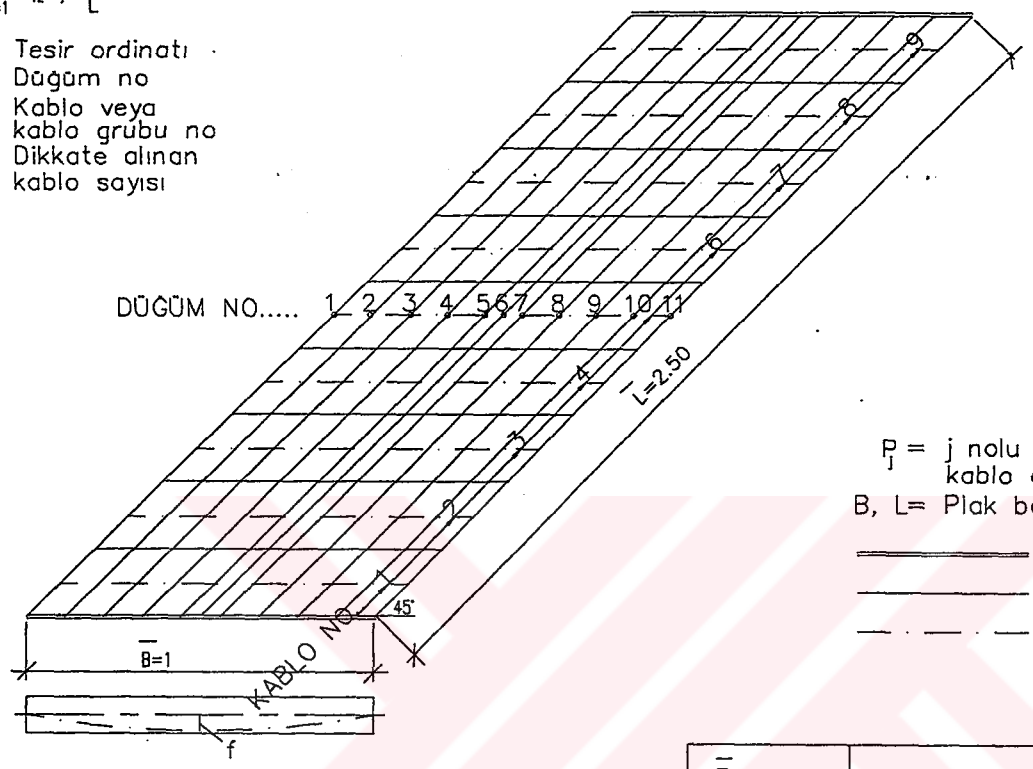
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.08741	0.11289	1.27829	0.84050	-0.11255	-0.67759	-0.53920	0.21461	0.57777	3.78200
2	-0.21493	0.01717	0.07535	-0.29549	0.05661	1.15095	0.70316	-0.38558	-0.77086	0.33643
3	-0.19961	-0.10080	-0.10281	0.26997	-0.51914	-0.38890	0.70097	0.55161	0.31558	0.52686
4	-0.00328	-0.12723	-0.18175	0.29050	0.13157	-0.34500	-0.10552	0.16013	0.39294	0.21238
5	-0.20356	-0.24155	-0.25605	0.14079	0.49460	-0.09532	-0.18748	0.17932	0.12535	-0.04389
6	0.26877	-0.00137	-0.38297	-0.04974	0.49406	-0.04974	-0.38297	-0.00137	0.26877	0.16342
7	0.12535	0.17932	-0.18748	-0.09532	0.49460	0.14079	-0.25605	-0.24155	-0.20356	-0.04389
8	0.39294	0.16013	-0.10552	-0.34500	0.13157	0.29050	-0.18175	-0.12723	-0.00328	0.21238
9	0.31558	0.55161	0.70097	-0.38890	-0.51914	0.26997	-0.10281	-0.10080	-0.19961	0.52686
10	-0.77086	-0.38558	0.70316	1.15095	0.05661	-0.29549	0.07535	0.01717	-0.21493	0.33643
11	0.57777	0.21461	-0.53920	-0.67759	-0.11255	0.84050	1.27829	0.11289	2.08741	3.78200

N455B

s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N455B

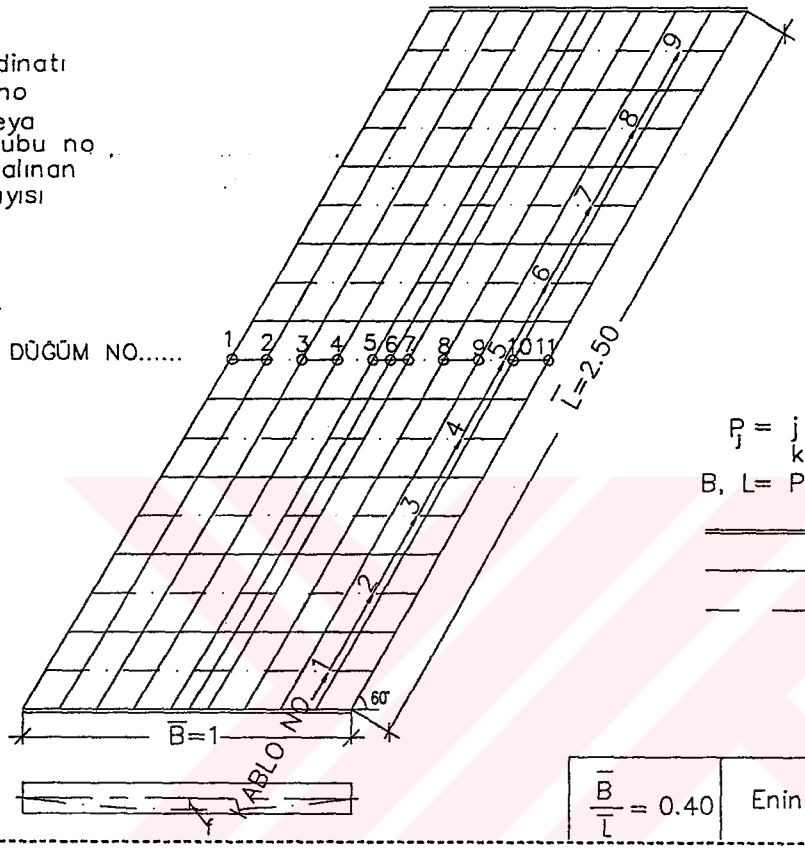
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.80596	0.37823	-0.34176	-2.84122	-1.60545	0.90404	-0.00927	-0.14631	-0.19853	-4.66645
2	0.06925	0.15605	-0.04493	-0.65776	-0.76354	-0.45149	-0.25873	0.07419	0.28641	-1.59053
3	0.01144	0.04388	0.03309	-0.24745	0.25543	0.29553	-0.29727	-0.26439	-0.23866	-0.40840
4	-0.08426	-0.04516	0.03749	-0.06561	0.18314	0.21705	-0.10982	-0.08007	-0.19071	-0.13795
5	0.02551	-0.03796	0.01172	0.07219	0.07828	0.15225	-0.06162	-0.16462	-0.06451	0.01123
6	-0.13783	-0.12003	0.04099	0.15001	0.07628	0.15001	0.04099	-0.12003	-0.13783	-0.05745
7	-0.06451	-0.16462	-0.06162	0.15225	0.07828	0.07219	0.01172	-0.03796	0.02551	0.01123
8	-0.19071	-0.08007	-0.10982	0.21705	0.18314	-0.06561	0.03749	-0.04516	-0.08426	-0.13795
9	-0.23866	-0.26439	-0.29727	0.29553	0.25543	-0.24745	0.03309	0.04388	0.01144	-0.40840
10	0.28641	0.07419	-0.25873	-0.45149	-0.76354	-0.65776	-0.04493	0.15605	0.06925	-1.59053
11	-0.19853	-0.14631	-0.00927	0.90404	-1.60545	-2.84122	-0.34176	0.37823	-0.80596	-4.66645

N606B

m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=i}^{n} m_{11}^{ij} P_j f_j/B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L}$ = 0.40	Enine kablo	N606B

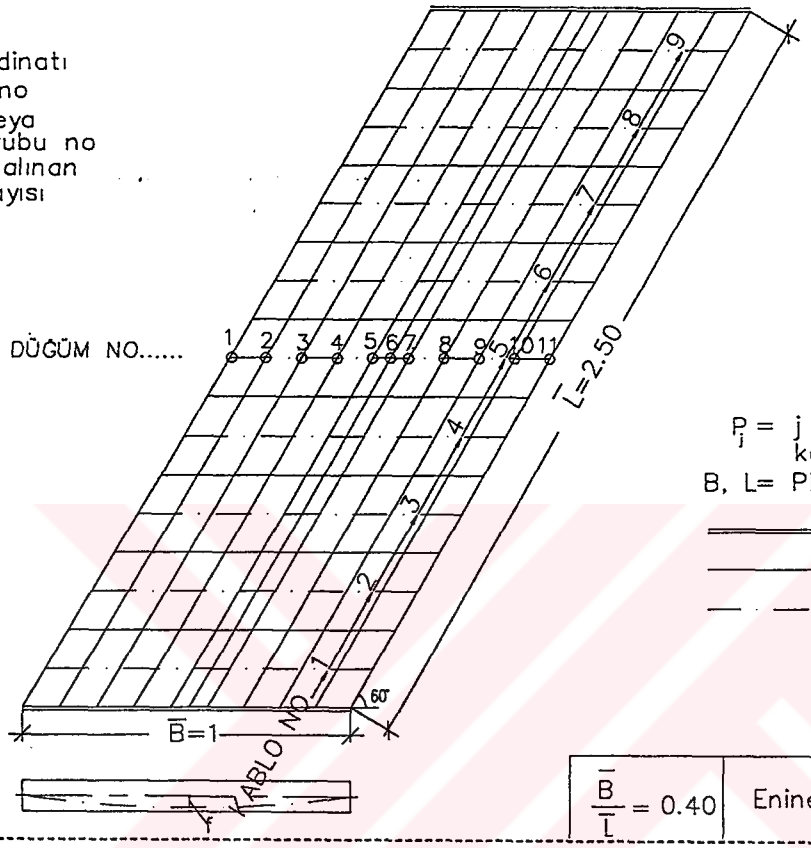
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.06723	0.15374	0.14354	0.06924	-0.10223	-0.10487	0.06051	0.10138	0.05043	0.43898
2	0.05415	0.11468	0.08856	-0.01634	-0.11421	-0.04765	0.08627	0.12046	0.05639	0.34231
3	0.05346	0.11071	0.07971	-0.03011	-0.12846	-0.06916	0.06543	0.11358	0.05488	0.25005
4	0.05323	0.10694	0.06967	-0.03985	-0.12873	-0.07282	0.05452	0.10855	0.05413	0.20563
5	0.05036	0.09648	0.04314	-0.06803	-0.11710	-0.04031	0.07042	0.11552	0.05684	0.20732
6	0.05385	0.10599	0.05795	-0.06237	-0.13642	-0.06245	0.05789	0.10595	0.05384	0.17425
7	0.05689	0.11573	0.07084	-0.03967	-0.11629	-0.06726	0.04367	0.09675	0.05044	0.21110
8	0.05413	0.10855	0.05453	-0.07281	-0.12873	-0.03985	0.06966	0.10693	0.05323	0.20564
9	0.05488	0.11358	0.06543	-0.06916	-0.12846	-0.03011	0.07971	0.11071	0.05346	0.25005
10	0.05639	0.12046	0.08627	-0.04765	-0.11421	-0.01634	0.08856	0.11468	0.05415	0.34231
11	0.05043	0.10138	0.06051	-0.10487	-0.10223	0.06924	0.14354	0.15374	0.06723	0.43898

N606B

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N606B

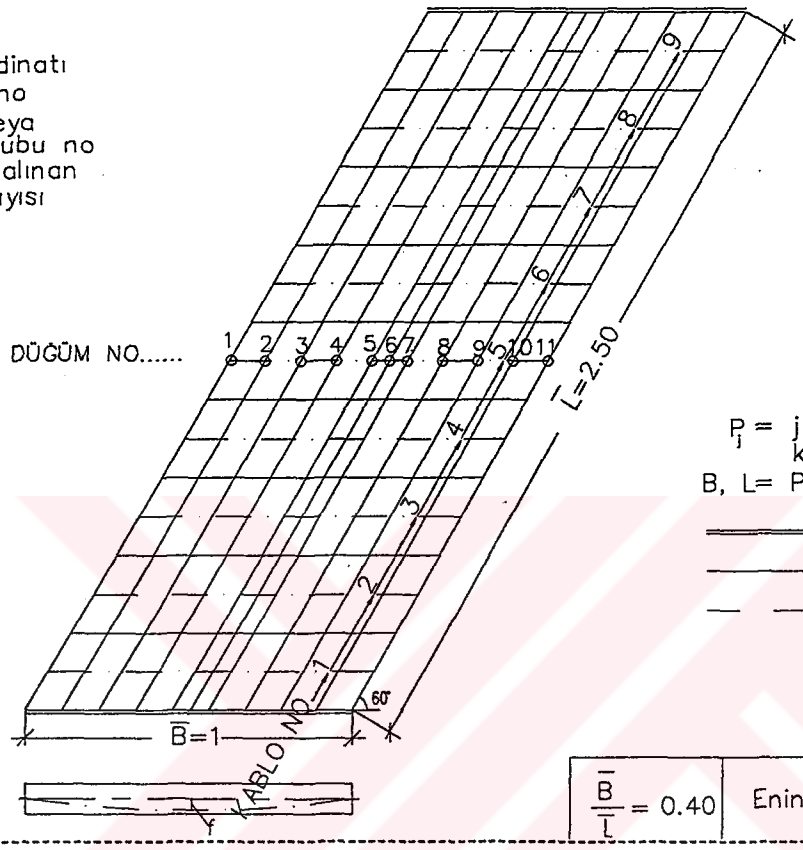
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.60014	-1.77690	-2.86390	-3.70485	-3.60175	-2.69375	-1.83315	-1.08070	-0.35726	-18.51250
2	-0.57346	-1.70488	-2.77180	-3.64820	-3.73998	-2.93385	-1.98225	-1.16600	-0.38544	-18.90600
3	-0.54777	-1.63508	-2.68493	-3.61345	-3.85688	-3.12400	-2.11848	-1.24898	-0.41342	-19.24275
4	-0.52227	-1.56450	-2.59580	-3.56548	-3.93063	-3.28545	-2.25750	-1.33250	-0.44172	-19.49550
5	-0.49596	-1.48992	-2.49533	-3.50833	-3.96828	-3.40143	-2.38410	-1.41360	-0.46966	-19.62675
6	-0.48295	-1.45285	-2.44100	-3.46463	-3.98708	-3.46468	-2.44105	-1.45288	-0.48295	-19.67000
7	-0.46972	-1.41382	-2.38458	-3.40213	-3.96910	-3.50905	-2.49580	-1.49018	-0.49603	-19.63050
8	-0.44172	-1.33250	-2.25750	-3.28545	-3.93065	-3.56550	-2.59580	-1.56450	-0.52227	-19.49550
9	-0.41342	-1.24898	-2.11845	-3.12398	-3.85688	-3.61345	-2.68493	-1.63508	-0.54777	-19.24275
10	-0.38543	-1.16600	-1.98225	-2.93385	-3.73998	-3.64820	-2.77180	-1.70488	-0.57346	-18.90600
11	-0.35726	-1.08070	-1.83315	-2.69375	-3.60175	-3.70485	-2.86390	-1.77690	-0.60014	-18.51250

N606B

m_{12} TESİR SAYILARI

$$M_{12}^{i}=\sum_{j=1}^{n} m_{12}^{ij} P_j f_j/B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

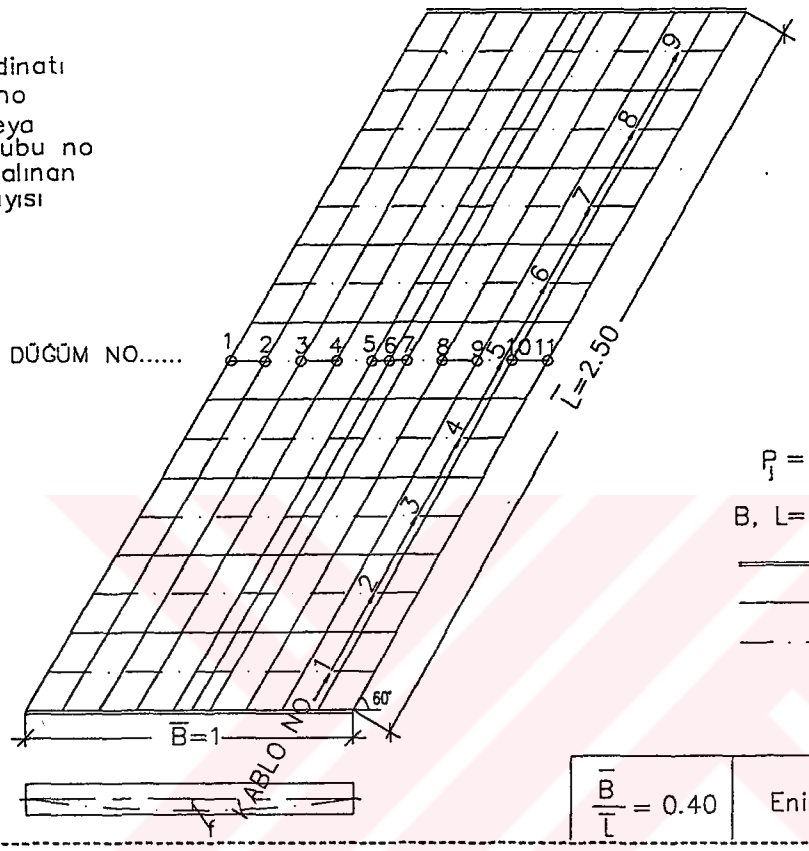
$\frac{B}{L}$ = 0.40	Enine kablo	N606B

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.12516	-0.41117	-0.74250	-1.07120	-1.07990	-0.74752	-0.42489	-0.19252	-0.04995	-4.84480
2	-0.11266	-0.37520	-0.68809	-0.98153	-1.02785	-0.76284	-0.44129	-0.20401	-0.05368	-4.64715
3	-0.10013	-0.33944	-0.63276	-0.90021	-0.96498	-0.75253	-0.45000	-0.21237	-0.05668	-4.40910
4	-0.08850	-0.30605	-0.58368	-0.83887	-0.92153	-0.75565	-0.47255	-0.22748	-0.06178	-4.25608
5	-0.07791	-0.27517	-0.53900	-0.79743	-0.90628	-0.77543	-0.50534	-0.24975	-0.06926	-4.19558
6	-0.07318	-0.26125	-0.52050	-0.78325	-0.90168	-0.78332	-0.52056	-0.26128	-0.07319	-4.17820
7	-0.06902	-0.24908	-0.50425	-0.77395	-0.90455	-0.79586	-0.53784	-0.27445	-0.07766	-4.18668
8	-0.06178	-0.22748	-0.47254	-0.75565	-0.92154	-0.83887	-0.58368	-0.30605	-0.08850	-4.25608
9	-0.05668	-0.21237	-0.45000	-0.75253	-0.96498	-0.90021	-0.63276	-0.33944	-0.10013	-4.40910
10	-0.05368	-0.20401	-0.44129	-0.76284	-1.02785	-0.98153	-0.68809	-0.37520	-0.11266	-4.64715
11	-0.04995	-0.19252	-0.42489	-0.74752	-1.07990	-1.07120	-0.74250	-0.41117	-0.12516	-4.84480

N606B — s11 TESİR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N606B

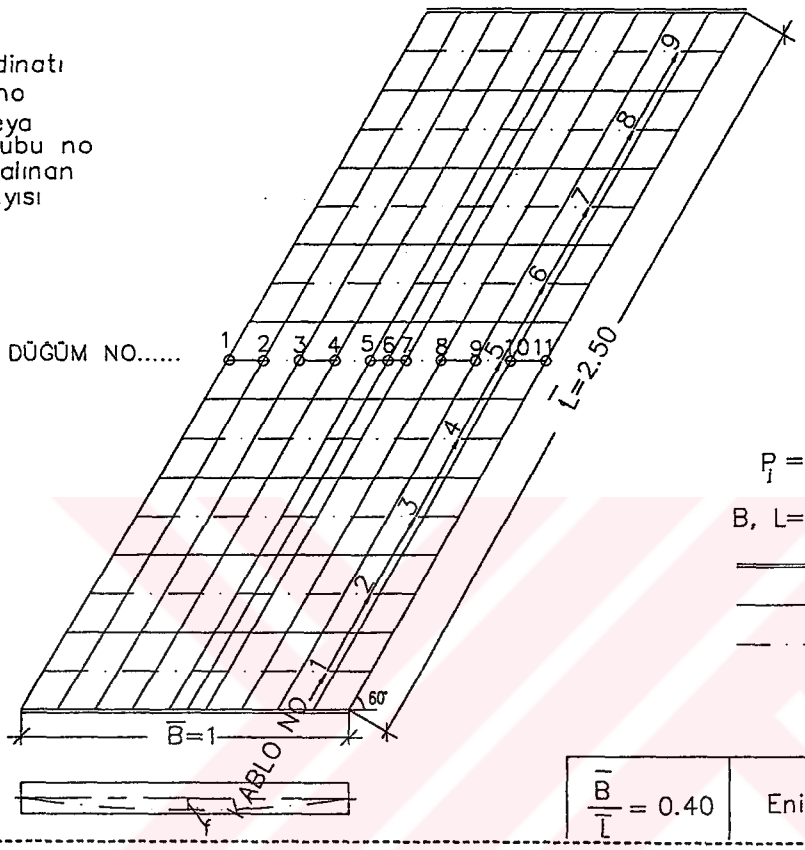
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.28591	0.17232	0.44573	0.38468	0.73643	0.97013	0.36863	0.02572	-0.05778	3.33175
2	0.13383	0.10098	0.08377	-0.47146	-0.45518	0.15512	0.17337	0.05602	0.00837	-0.21517
3	0.10888	0.07446	-0.14659	-1.14938	-1.84157	-1.01162	-0.10906	0.10165	0.19191	-3.78135
4	0.07428	0.05019	-0.23270	-1.12815	-1.80560	-1.00527	-0.10870	-0.02316	0.07043	-4.10862
5	0.07248	0.01201	-0.24367	-1.07880	-1.68590	-1.02205	-0.21323	-0.05064	-0.00271	-4.21248
6	0.04855	-0.02892	-0.26387	-1.05348	-1.63985	-1.05338	-0.26386	-0.02898	0.04821	-4.23555
7	-0.00298	-0.05065	-0.21324	-1.02210	-1.68585	-1.07877	-0.24364	0.01204	0.07260	-4.21260
8	0.07044	-0.02315	-0.10870	-1.00527	-1.80560	-1.12815	-0.23270	0.05019	0.07428	-4.10860
9	0.19191	0.10165	-0.10906	-1.01162	-1.84158	-1.14938	-0.14659	0.07446	0.10888	-3.78135
10	0.00837	0.05602	0.17337	0.15512	-0.45518	-0.47146	0.08377	0.10098	0.13383	-0.21517
11	-0.05778	0.02572	0.36863	0.97013	0.73643	0.38468	0.44573	0.17232	0.28591	3.33175

N606B

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

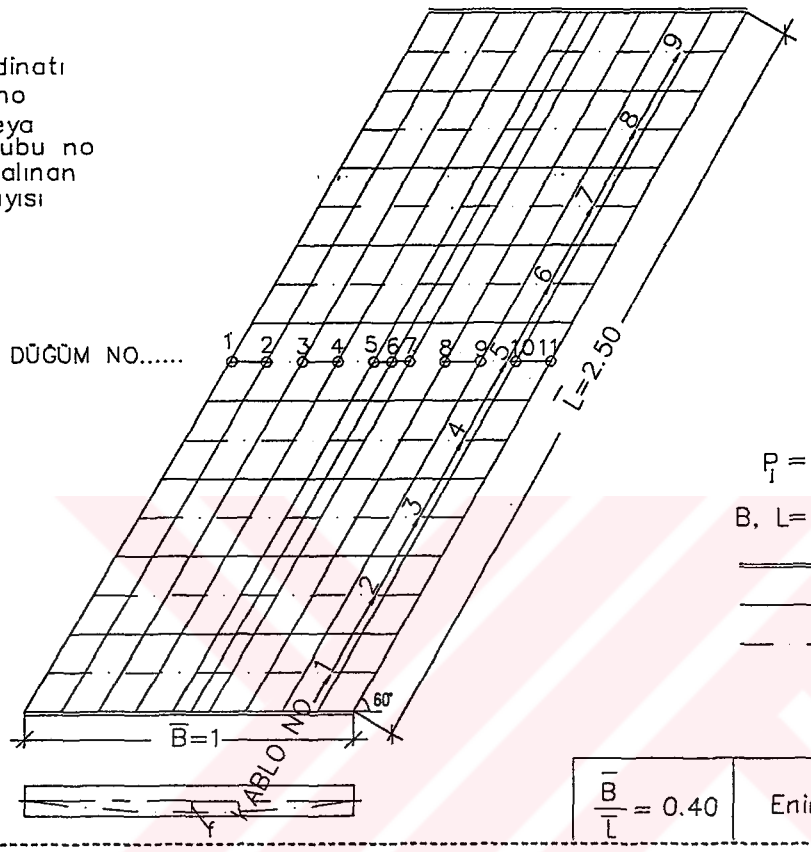
$\frac{\bar{B}}{\bar{L}}$ = 0.40	Enine kablo	N606B

DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	0.95952	0.49091	1.25820	0.37875	-0.50012	-0.50251	-0.58035	-0.02204	0.26666	1.74895
2	-0.03095	0.04907	-0.06448	-0.34619	0.07845	0.76663	0.42890	-0.20971	-0.50369	0.16805
3	-0.13228	-0.07550	-0.14527	0.11781	-0.15666	-0.19559	0.35948	0.30503	0.16035	0.23736
4	-0.08280	-0.11278	-0.14205	0.21180	0.19406	-0.14233	-0.05093	0.09595	0.22217	0.19307
5	0.01059	-0.12693	-0.16249	0.15887	0.38655	0.03047	-0.15543	-0.05053	-0.06100	0.03010
6	0.08997	-0.02450	-0.19253	0.04754	0.35671	0.04760	-0.19251	-0.02434	0.09079	0.19875
7	-0.06031	-0.05037	-0.15538	0.03051	0.38649	0.15887	-0.16247	-0.12707	0.00991	0.03018
8	0.22218	0.09595	-0.05094	-0.14234	0.19406	0.21180	-0.14205	-0.11278	-0.08278	0.19309
9	0.16034	0.30503	0.35947	-0.19559	-0.15666	0.11781	-0.14527	-0.07550	-0.13228	0.23735
10	-0.50369	-0.20971	0.42890	0.76663	0.07845	-0.34619	-0.06448	0.04907	-0.03095	0.16804
11	0.26661	-0.02204	-0.58035	-0.50251	-0.50012	0.37875	1.25820	0.49091	0.95952	1.74895

N606B — s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

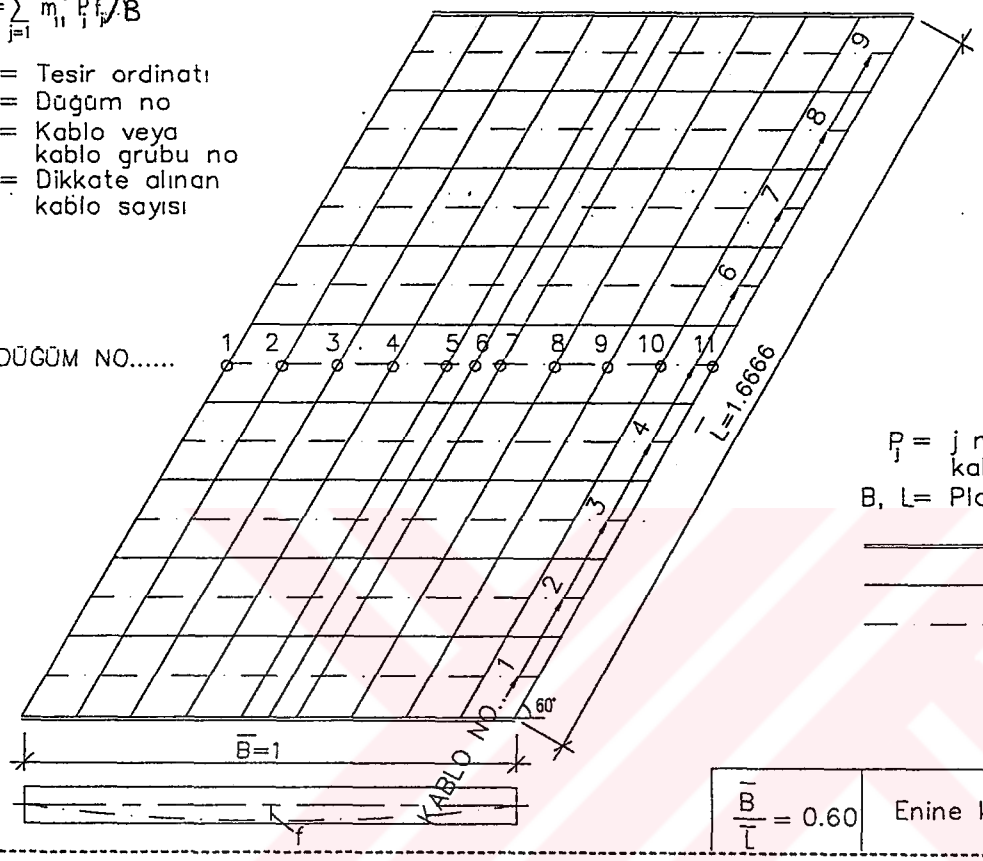
$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N606B

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.60635	-0.02719	-0.53322	-2.25248	-1.05150	1.10039	0.35456	-0.05826	-0.20139	-3.27540
2	0.03565	0.10470	-0.00780	-0.40696	-0.46767	-0.47693	-0.38113	0.08535	0.31335	-1.20143
3	0.05542	0.05590	0.01356	-0.25957	0.25810	0.30438	-0.34780	-0.29063	-0.22802	-0.43866
4	-0.00855	-0.00091	0.01247	-0.14229	0.12922	0.25712	-0.09487	-0.16068	-0.23212	-0.24062
5	-0.08218	-0.03018	0.01980	-0.01210	0.01064	0.12387	-0.00451	-0.08554	-0.01499	-0.07519
6	-0.13139	-0.10567	0.03624	0.09330	0.02778	0.09329	0.03628	-0.10570	-0.13153	-0.18741
7	-0.01508	-0.08556	-0.00454	0.12336	0.00969	-0.01266	0.01975	-0.03005	-0.08193	-0.07702
8	-0.23213	-0.16068	-0.09487	0.25712	0.12922	-0.14230	0.01247	-0.00092	-0.00856	-0.24063
9	-0.22802	-0.29063	-0.34780	0.30438	0.25810	-0.25957	0.01356	0.05590	0.05542	-0.43865
10	0.31335	0.08535	-0.38113	-0.47693	-0.46767	-0.40696	-0.00780	0.10470	0.03565	-1.20143
11	-0.20138	-0.05826	0.35456	1.10039	-1.05150	-2.25248	-0.53322	-0.02719	-0.60635	-3.27540

N607B — m11 TESIR SAYILARI

$$M_{11}^{i}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L}=0.60$	Enine kablo	N607B

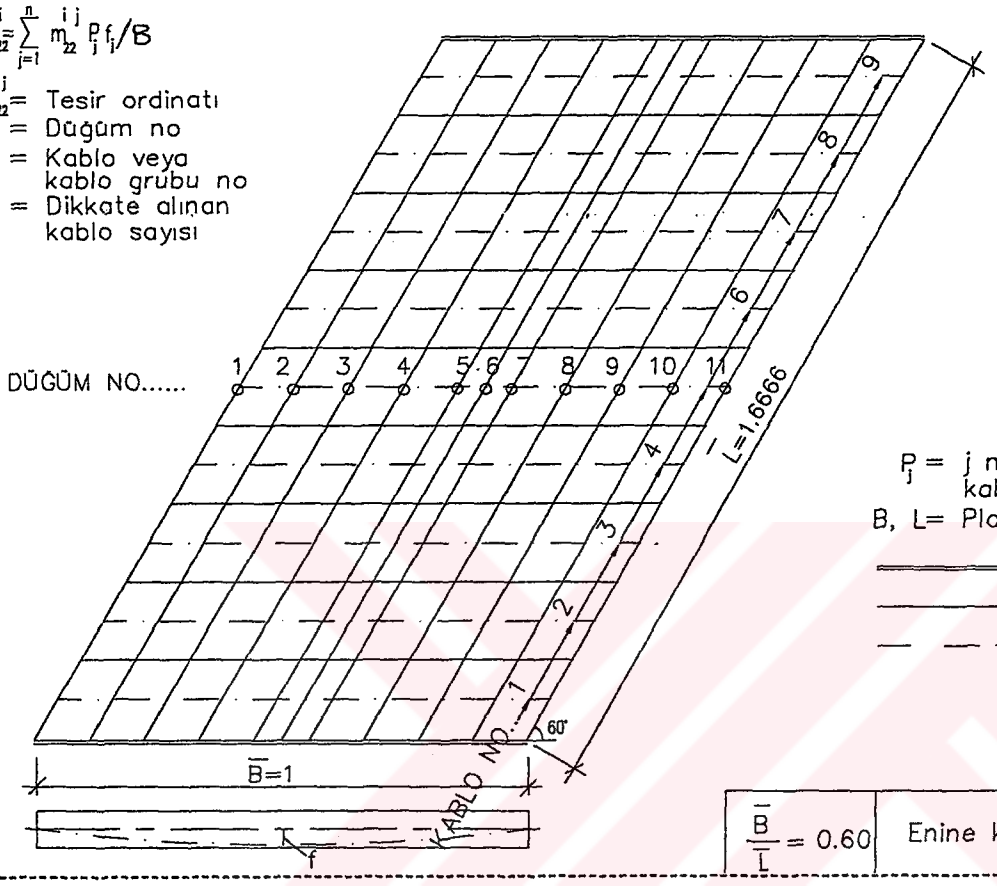
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.04840	0.11613	0.11796	0.07956	-0.07223	-0.11078	0.00891	0.04159	0.02346	0.25300
2	0.03390	0.07276	0.05513	-0.02087	-0.10101	-0.07358	0.01199	0.04643	0.02472	0.04947
3	0.03049	0.06288	0.03995	-0.03889	-0.11555	-0.09663	-0.01616	0.03207	0.02069	-0.08115
4	0.02697	0.05210	0.02786	-0.04802	-0.11433	-0.09041	-0.01925	0.02692	0.01934	-0.11883
5	0.02015	0.03124	-0.00793	-0.07016	-0.09754	-0.05485	0.00837	0.04036	0.02353	-0.10684
6	0.02183	0.03579	0.00008	-0.06880	-0.10987	-0.06884	0.00003	0.03575	0.02182	-0.13220
7	0.02353	0.04039	0.00841	-0.05479	-0.09753	-0.07023	-0.00798	0.03120	0.02013	-0.10688
8	0.01935	0.02695	-0.01922	-0.09039	-0.11440	-0.04814	0.02778	0.05205	0.02695	-0.11907
9	0.02070	0.03209	-0.01613	-0.09661	-0.11562	-0.03902	0.03986	0.06282	0.03047	-0.08144
10	0.02472	0.04641	0.01196	-0.07366	-0.10123	-0.02115	0.05493	0.07264	0.03386	0.04848
11	0.02348	0.04165	0.00903	-0.11059	-0.07211	0.07958	0.11797	0.11611	0.04839	0.25350

N607B

m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

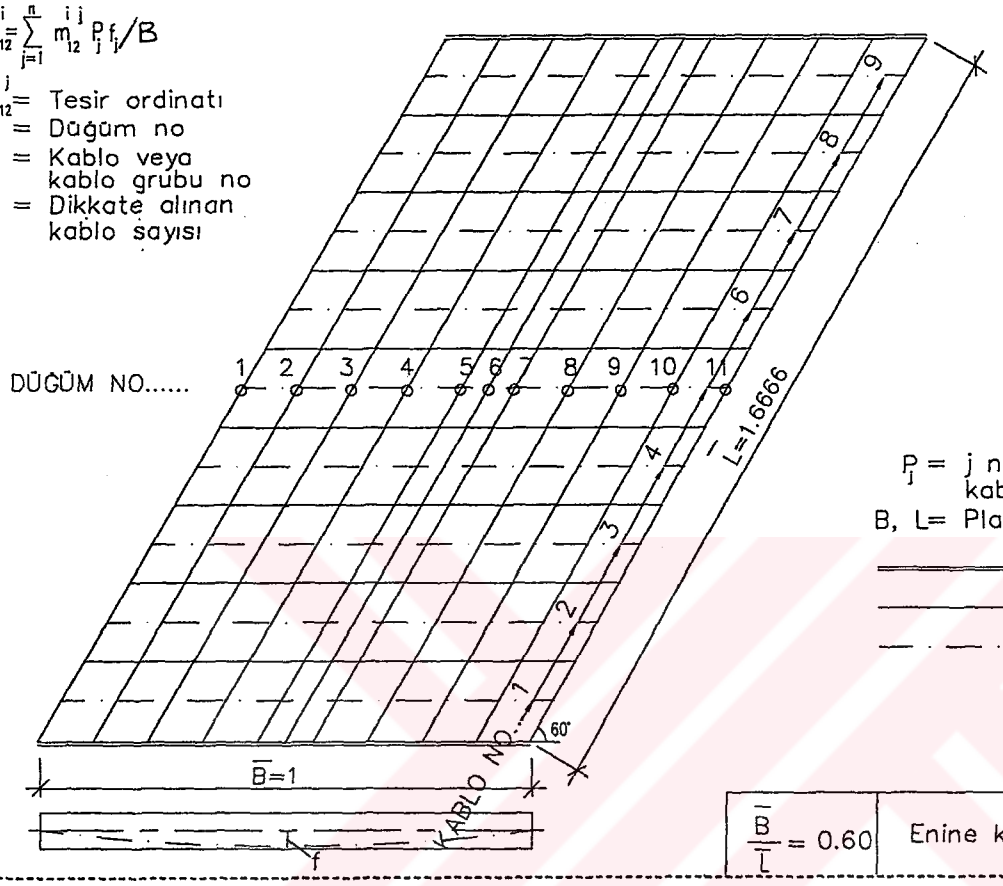
$\frac{B}{L} = 0.60$	Enine kablo	N607B

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.42782	-1.24130	-1.94645	-2.45525	-2.33810	-1.69935	-1.11695	-0.64239	-0.20901	-12.07650
2	-0.40333	-1.17905	-1.87118	-2.41510	-2.46620	-1.91322	-1.25000	-0.71643	-0.23308	-12.44775
3	-0.38150	-1.12620	-1.81690	-2.41433	-2.57850	-2.08433	-1.38338	-0.79437	-0.25896	-12.83850
4	-0.35916	-1.07155	-1.76193	-2.39800	-2.64472	-2.21695	-1.50710	-0.87148	-0.28502	-13.11600
5	-0.33543	-1.01100	-1.69503	-2.37085	-2.67170	-2.29645	-1.60935	-0.94395	-0.31076	-13.24450
6	-0.32329	-0.97928	-1.65315	-2.34675	-2.69945	-2.34718	-1.65345	-0.97946	-0.32335	-13.30500
7	-0.31070	-0.94377	-1.60905	-2.29600	-2.67168	-2.37123	-1.69530	-1.01115	-0.33548	-13.24450
8	-0.28496	-0.87130	-1.50673	-2.21643	-2.64458	-2.39828	-1.76215	-1.07168	-0.35922	-13.11525
9	-0.25889	-0.79419	-1.38303	-2.08378	-2.57828	-2.41453	-1.81705	-1.12630	-0.38154	-12.83750
10	-0.23302	-0.71623	-1.24965	-1.91260	-2.46585	-2.41513	-1.87128	-1.17913	-0.40335	-12.44625
11	-0.20886	-0.64195	-1.11615	-1.69800	-2.33670	-2.45420	-1.94570	-1.24090	-0.42768	-12.07000

N607B — m12 TESIR SAYILARI

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

$\frac{B}{L} = 0.60$	Enine kablo	N607B

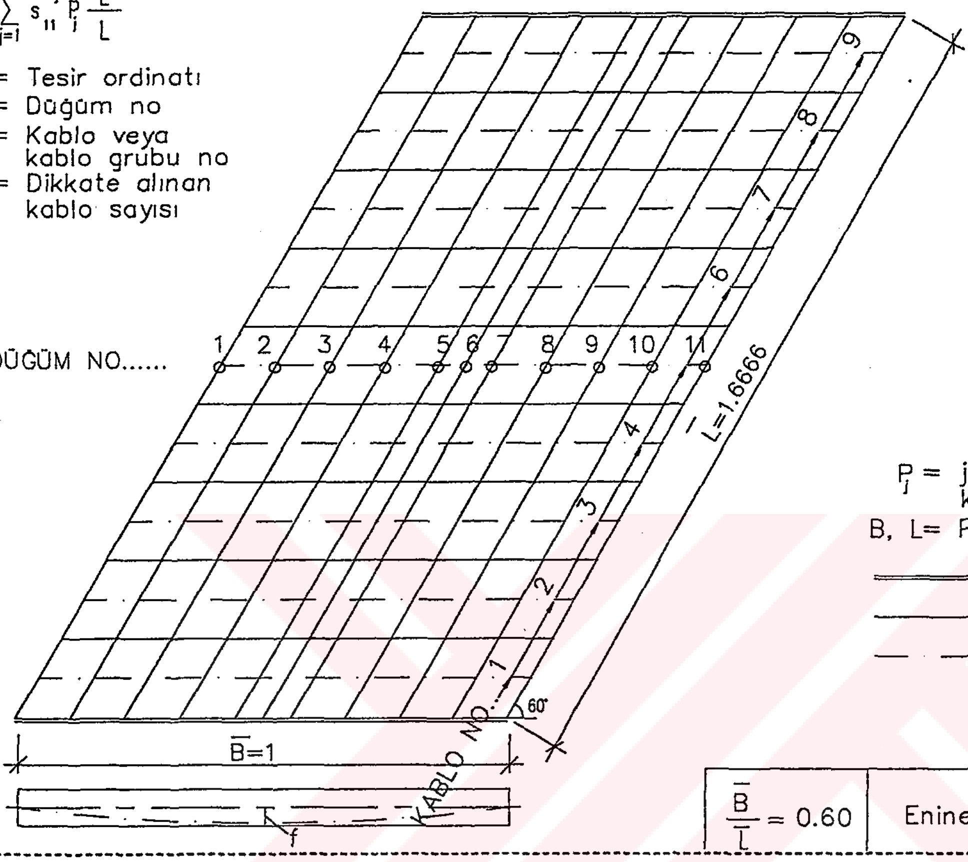
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.09039	-0.28429	-0.48952	-0.68910	-0.68026	-0.45885	-0.25832	-0.11653	-0.03027	-3.09750
2	-0.07551	-0.24011	-0.41757	-0.57428	-0.59464	-0.43694	-0.24619	-0.11077	-0.02817	-2.72420
3	-0.06044	-0.19639	-0.34522	-0.47097	-0.49970	-0.38852	-0.22664	-0.10120	-0.02507	-2.31413
4	-0.04703	-0.15899	-0.28899	-0.39663	-0.43100	-0.35690	-0.22134	-0.10094	-0.02510	-2.02690
5	-0.03576	-0.12810	-0.24670	-0.35344	-0.39868	-0.34754	-0.23009	-0.11115	-0.02899	-1.88045
6	-0.03168	-0.11766	-0.23458	-0.34707	-0.39699	-0.34722	-0.23473	-0.11776	-0.03172	-1.85940
7	-0.02896	-0.11105	-0.22995	-0.34738	-0.39867	-0.35358	-0.24684	-0.12821	-0.03580	-1.88045
8	-0.02507	-0.10084	-0.22119	-0.35673	-0.43098	-0.39677	-0.28913	-0.15909	-0.04707	-2.02688
9	-0.02504	-0.10112	-0.22650	-0.38834	-0.49967	-0.47111	-0.34536	-0.19649	-0.06048	-2.31410
10	-0.02814	-0.11067	-0.24603	-0.43667	-0.59451	-0.57435	-0.41767	-0.24019	-0.07554	-2.72378
11	-0.03023	-0.11640	-0.25809	-0.45844	-0.67992	-0.68898	-0.48947	-0.28429	-0.09039	-3.09620

N607B

s11 TESIR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
——— Mesnet
——— Mesh
— · — · — Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N607B

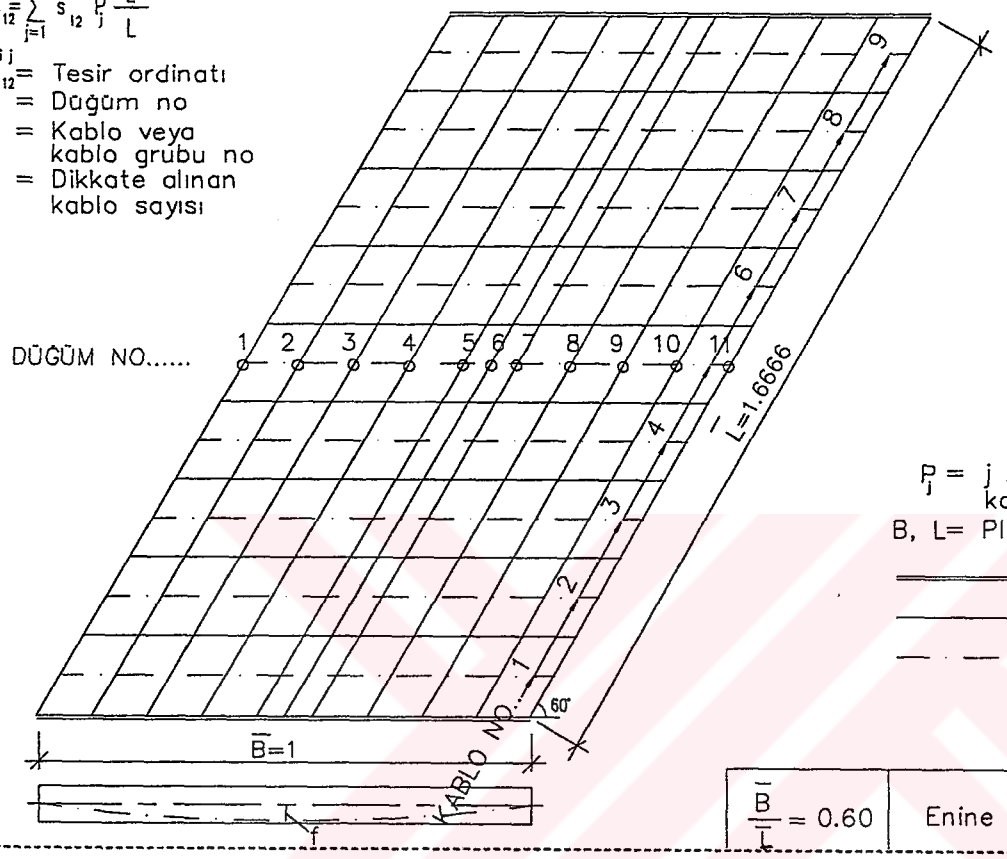
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.45108	0.12740	-0.00933	-0.63615	-0.21671	0.38282	-0.06076	-0.05496	-0.01015	-0.02680
2	0.29919	0.02208	-0.29840	-1.19269	-1.44465	-0.49159	-0.00225	-0.03078	-0.04600	-3.18506
3	0.28599	-0.07851	-0.59862	-1.69243	-2.52955	-1.43390	-0.13867	0.01141	0.04571	-6.12858
4	0.23135	-0.13654	-0.73089	-1.55483	-2.12798	-1.46423	-0.41359	-0.06464	0.08258	-6.17873
5	0.20912	-0.14901	-0.73892	-1.49323	-1.89900	-1.48165	-0.63501	-0.12628	0.06123	-6.25275
6	0.16936	-0.14442	-0.73232	-1.49455	-1.85230	-1.49498	-0.73282	-0.14460	0.16939	-6.25723
7	0.06122	-0.12616	-0.63450	-1.48118	-1.89910	-1.49362	-0.73939	-0.14922	0.20920	-6.25278
8	0.08270	-0.06454	-0.41313	-1.46365	-2.12808	-1.55540	-0.73131	-0.13669	0.23153	-6.17858
9	0.04598	0.01164	-0.13847	-1.43285	-2.52918	-1.69328	-0.59894	-0.07861	0.28614	-6.12755
10	-0.04568	-0.03044	-0.00162	-0.48902	-1.44376	-1.19414	-0.29860	0.02210	0.29935	-3.18182
11	-0.00982	-0.05459	-0.05941	0.38630	-0.21674	-0.63881	-0.00953	0.12749	0.45120	-0.02390

N607B

s_{12} TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N607B

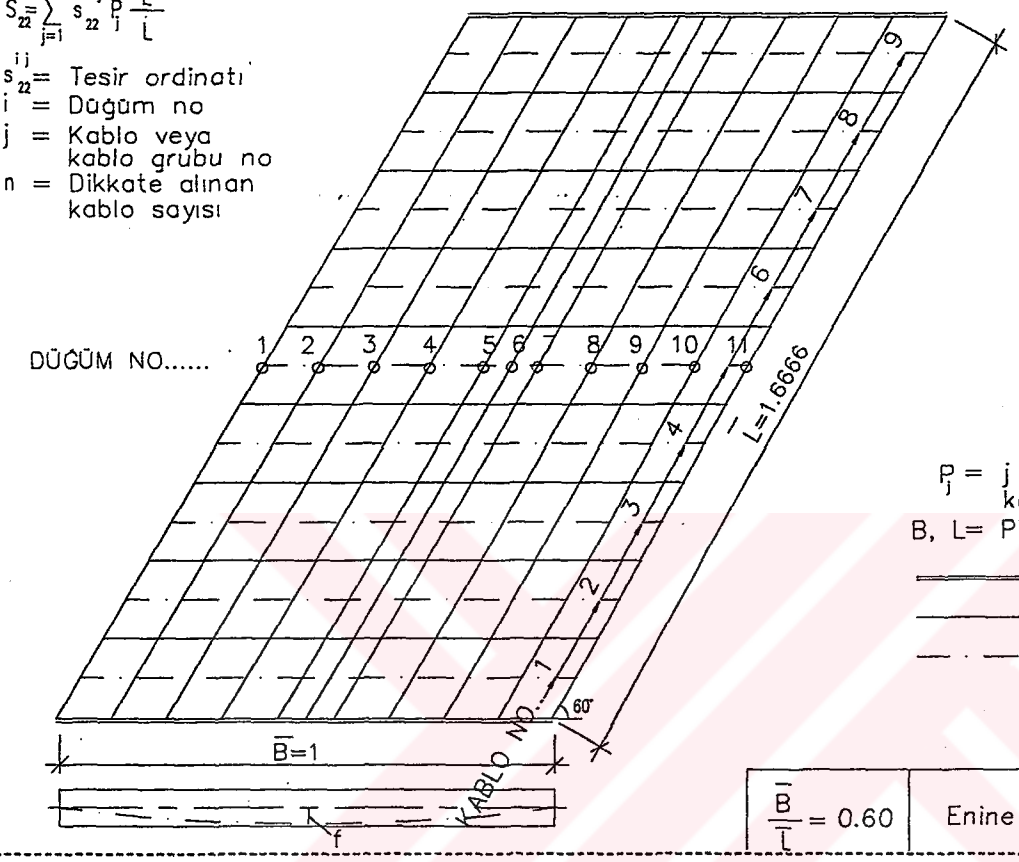
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.04569	0.19541	-0.30975	-2.92399	-1.72345	1.21982	0.46716	0.05786	-0.07948	-3.14210
2	0.29714	0.09027	-0.35289	-0.81971	-0.39613	-0.22300	-0.24724	0.15941	0.19759	-1.29457
3	0.13961	0.03263	-0.16775	-0.38238	0.25270	0.35339	-0.33820	-0.30727	-0.13423	-0.55150
4	-0.04842	0.01381	-0.03410	-0.20797	0.08670	0.41194	0.05357	-0.26772	-0.37599	-0.36818
5	-0.32225	-0.02406	0.11168	0.00398	-0.02736	0.19506	0.15942	-0.07252	-0.15309	-0.12913
6	-0.34884	-0.09652	0.15809	0.14482	0.01518	0.14464	0.15791	-0.09670	-0.34920	-0.27062
7	-0.15303	-0.07241	0.15964	0.19541	-0.02717	0.00393	0.11159	-0.02427	-0.32283	-0.12914
8	-0.37655	-0.26789	0.05365	0.41255	0.08737	-0.20786	-0.03422	0.01349	-0.04933	-0.36877
9	-0.13533	-0.30790	-0.33882	0.35367	0.25354	-0.38229	-0.16799	0.03224	0.13858	-0.55429
10	0.19609	0.15828	-0.24810	-0.22470	-0.39777	-0.82029	-0.35338	0.08987	0.29599	-1.30399
11	-0.08110	0.05637	0.46468	1.21642	-1.72710	-2.92600	-0.31004	0.19499	-0.04691	-3.15845

N607B

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N607B

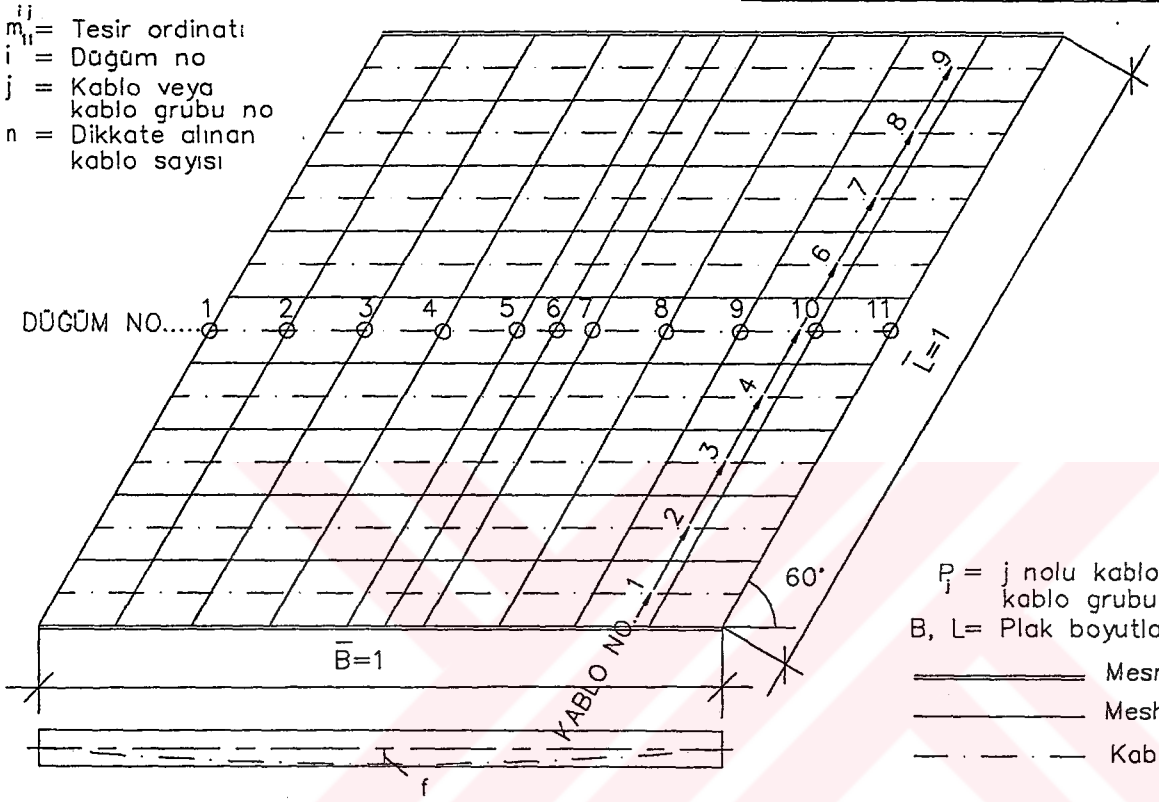
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.29548	0.59651	0.56785	-0.76992	-0.70790	0.03965	-0.32330	0.12747	0.20583	1.03165
2	0.10183	0.15023	-0.07088	-0.22905	-0.09223	0.21689	0.20340	-0.12094	-0.21951	-0.06027
3	-0.21446	-0.07593	-0.01743	0.27819	0.11741	-0.06067	0.20618	0.15819	0.02182	0.41329
4	-0.28265	-0.16944	0.01312	0.40442	0.37229	-0.05382	-0.12256	0.02605	0.15395	0.34137
5	-0.04944	-0.18672	-0.08183	0.30832	0.50592	0.18592	-0.13894	-0.19873	-0.25280	0.09169
6	-0.01423	-0.11609	-0.12142	0.18671	0.43615	0.18723	-0.12092	-0.11591	-0.01420	0.30732
7	-0.25257	-0.19871	-0.13936	0.18520	0.50566	0.30865	-0.08143	-0.18646	-0.04917	0.09181
8	0.15487	0.02647	-0.12279	-0.05493	0.37150	0.40461	0.01350	-0.16907	-0.28199	0.34217
9	0.02320	0.15924	0.20703	-0.06140	0.11650	0.27859	-0.01704	-0.07555	-0.21364	0.41691
10	-0.21820	-0.11974	0.20551	0.21939	-0.08977	-0.22779	-0.07088	0.15056	0.10273	-0.04820
11	0.20723	0.12887	-0.32055	0.04315	-0.70809	-0.77252	0.56705	0.59679	1.29621	1.03810

N608B — m_{ij} TESIR SAYILARI

$$M_{ij} = \sum_{j=1}^{n} m_{ij}^{ij} P_j f_j / B$$

m_{ij}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

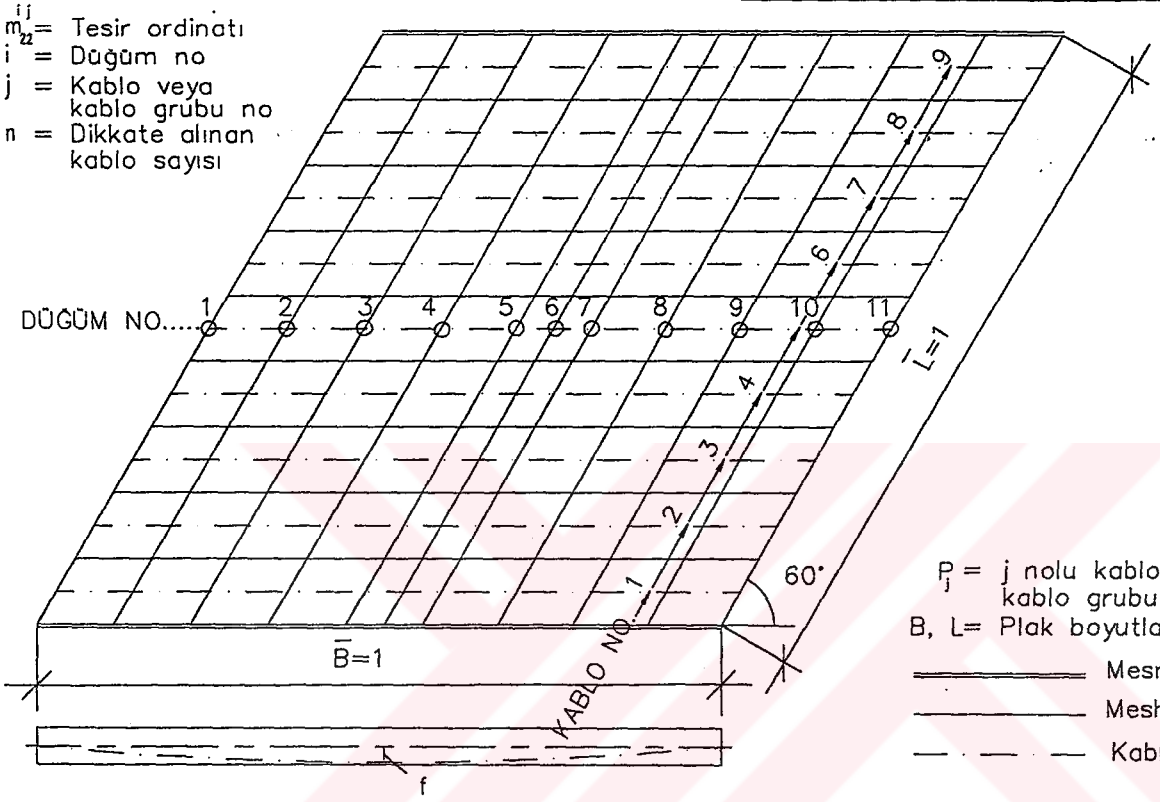
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.03428	0.08550	0.09009	0.07815	-0.05585	-0.12117	-0.03207	-0.00157	0.00447	0.08183
2	0.01838	0.03665	0.01866	-0.03719	-0.09681	-0.09252	-0.04355	-0.00892	0.00134	-0.20397
3	0.01162	0.01847	-0.00773	-0.06421	-0.11507	-0.11383	-0.07307	-0.03146	-0.00679	-0.38208
4	0.00251	-0.00341	-0.03151	-0.09082	-0.13446	-0.12003	-0.08117	-0.04196	-0.01158	-0.51243
5	-0.00939	-0.03582	-0.07347	-0.11555	-0.13930	-0.10915	-0.06087	-0.03064	-0.00812	-0.58231
6	-0.00932	-0.03380	-0.07267	-0.10945	-0.12253	-0.10945	-0.07267	-0.03380	-0.00932	-0.57301
7	-0.00812	-0.03064	-0.06087	-0.10915	-0.13930	-0.11555	-0.07347	-0.03582	-0.00939	-0.58231
8	-0.01158	-0.04196	-0.08117	-0.12003	-0.13446	-0.09082	-0.03151	-0.00341	0.00251	-0.51243
9	-0.00679	-0.03146	-0.07307	-0.11383	-0.11507	-0.06421	-0.00773	0.01847	0.01162	-0.38208
10	0.00134	-0.00892	-0.04355	-0.09252	-0.09681	-0.03719	0.01866	0.03665	0.01838	-0.20397
11	0.00447	-0.00157	-0.03207	-0.12117	-0.05585	0.07815	0.09009	0.08550	0.03428	0.08183

N608B — m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

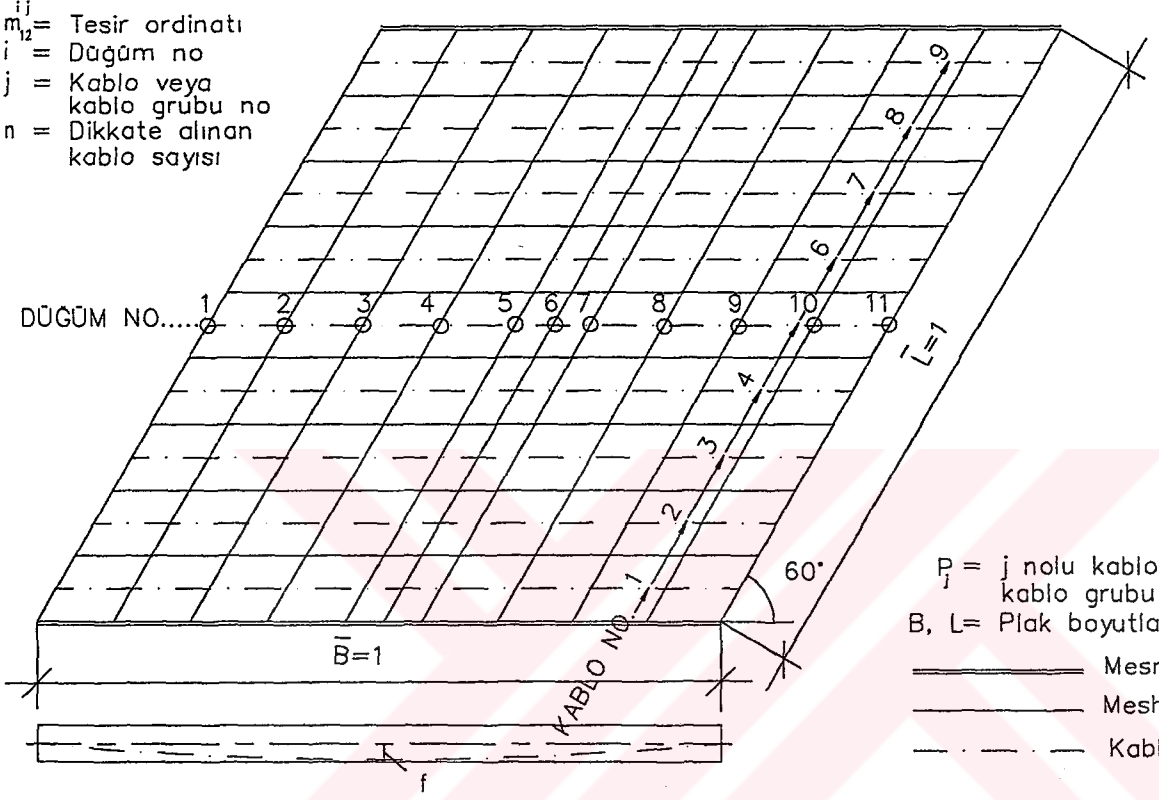
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.27775	-0.78913	-1.20555	-1.48610	-1.39895	-0.99556	-0.62639	-0.34847	-0.11058	-7.23835
2	-0.25524	-0.73192	-1.13518	-1.44855	-1.49440	-1.16518	-0.73964	-0.40814	-0.12929	-7.50750
3	-0.23689	-0.68894	-1.09363	-1.44750	-1.56225	-1.27882	-0.84223	-0.46850	-0.14878	-7.76755
4	-0.21815	-0.64581	-1.05023	-1.42630	-1.58520	-1.34105	-0.91204	-0.51876	-0.16626	-7.86378
5	-0.20024	-0.60346	-1.01025	-1.40267	-1.57458	-1.36115	-0.95969	-0.56014	-0.18262	-7.85483
6	-0.19155	-0.58295	-0.98304	-1.39585	-1.60845	-1.39585	-0.98304	-0.58295	-0.19155	-7.91525
7	-0.18262	-0.56014	-0.95969	-1.36115	-1.57458	-1.40268	-1.01025	-0.60346	-0.20025	-7.85483
8	-0.16626	-0.51876	-0.91204	-1.34105	-1.58520	-1.42630	-1.05023	-0.64581	-0.21815	-7.86378
9	-0.14878	-0.46850	-0.84223	-1.27882	-1.56225	-1.44750	-1.09363	-0.68894	-0.23689	-7.76755
10	-0.12930	-0.40814	-0.73964	-1.16518	-1.49440	-1.44855	-1.13518	-0.73192	-0.25524	-7.50750
11	-0.11058	-0.34847	-0.62639	-0.99556	-1.39895	-1.48610	-1.20555	-0.78913	-0.27775	-7.23835

N608B — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.05815	-0.17794	-0.29523	-0.41093	-0.39943	-0.26256	-0.14949	-0.06947	-0.01858	-1.84180
2	-0.04187	-0.12799	-0.21223	-0.28611	-0.29947	-0.22062	-0.12230	-0.05445	-0.01330	-1.37835
3	-0.02604	-0.08027	-0.13200	-0.17903	-0.19605	-0.15284	-0.08636	-0.03544	-0.00713	-0.89516
4	-0.01422	-0.04617	-0.07692	-0.10597	-0.12234	-0.10019	-0.05881	-0.02386	-0.00390	-0.55240
5	-0.00643	-0.02486	-0.04900	-0.06902	-0.08261	-0.07590	-0.04934	-0.02208	-0.00448	-0.38373
6	-0.00489	-0.02137	-0.04480	-0.07432	-0.09201	-0.07432	-0.04480	-0.02137	-0.00489	-0.38278
7	-0.00448	-0.02208	-0.04934	-0.07590	-0.08261	-0.06902	-0.04900	-0.02486	-0.00643	-0.38373
8	-0.00390	-0.02386	-0.05881	-0.10019	-0.12234	-0.10597	-0.07693	-0.04617	-0.01422	-0.55240
9	-0.00713	-0.03544	-0.08636	-0.15284	-0.19604	-0.17903	-0.13200	-0.08027	-0.02604	-0.89516
10	-0.01330	-0.05445	-0.12230	-0.22062	-0.29947	-0.28611	-0.21223	-0.12799	-0.04187	-1.37835
11	-0.01858	-0.06947	-0.14949	-0.26256	-0.39943	-0.41093	-0.29523	-0.17794	-0.05815	-1.84180

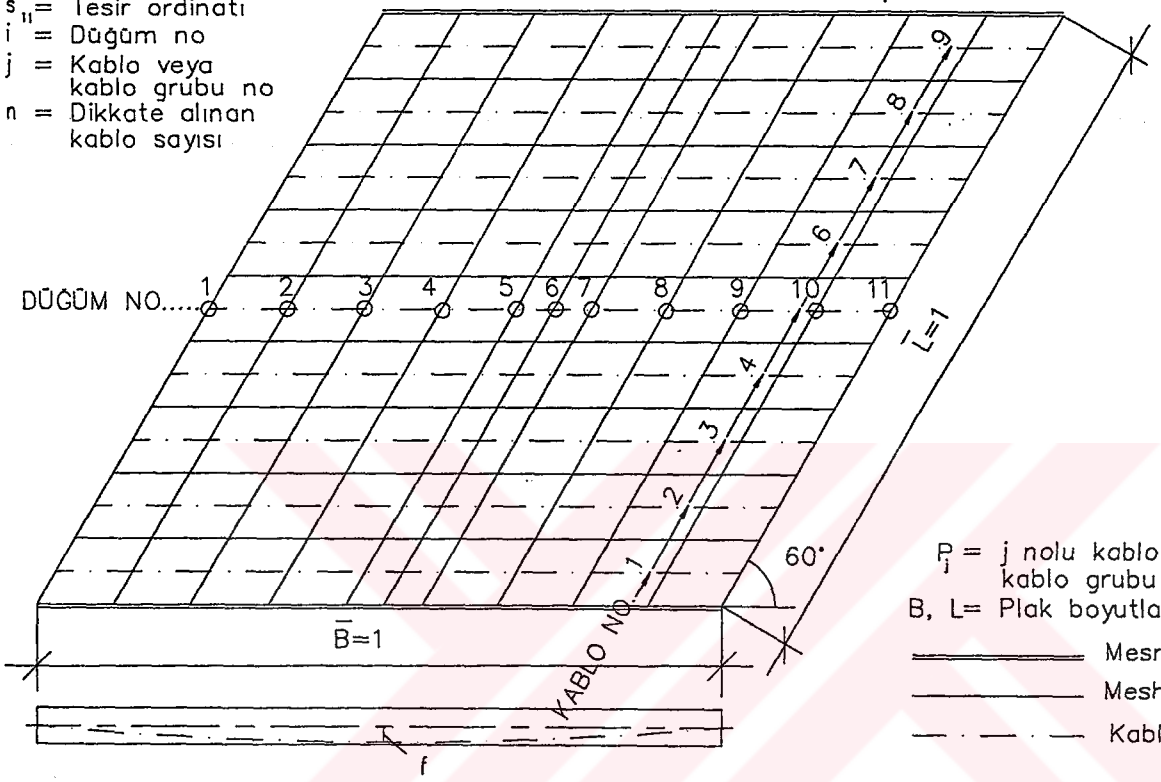
N608B

s11 TESIR SAYILARI

$$S_{11}^{i}=\sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}}=1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

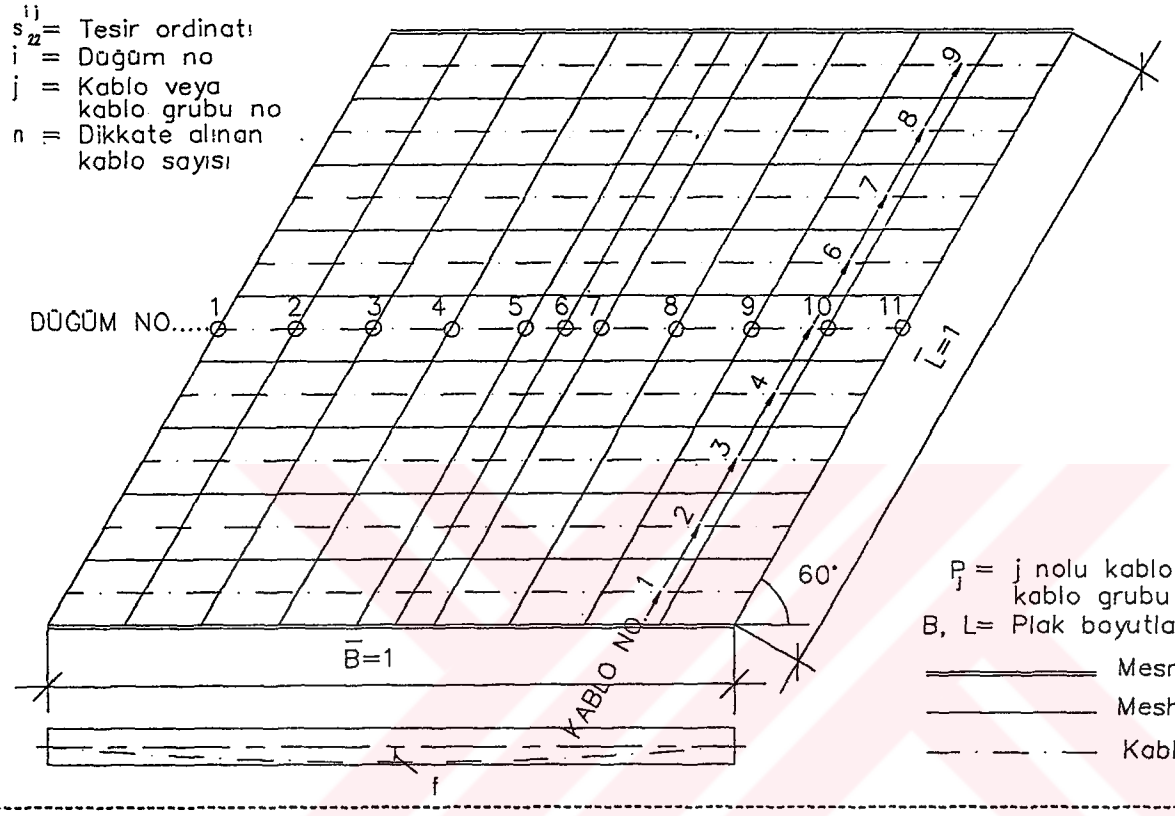
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.79685	0.14768	-0.49197	-2.53105	-2.61640	-0.68541	-0.18435	-0.03599	-0.07455	-5.67520
2	0.43413	-0.16475	-0.85959	-2.38010	-3.14340	-1.64338	-0.32682	-0.13889	-0.13700	-8.35980
3	0.16955	-0.50463	-1.25623	-2.28215	-3.15220	-2.20008	-0.70617	-0.32447	-0.21912	-10.47550
4	-0.06526	-0.69194	-1.34170	-1.92543	-2.29615	-2.04375	-1.16925	-0.48189	-0.22848	-10.24375
5	-0.12521	-0.74383	-1.35125	-1.82223	-2.05115	-1.91388	-1.37778	-0.72097	-0.21567	-10.32200
6	-0.13296	-0.77357	-1.39603	-1.84623	-1.99770	-1.84622	-1.39603	-0.77357	-0.13296	-10.29500
7	-0.21567	-0.72096	-1.37778	-1.91388	-2.05115	-1.82222	-1.35125	-0.74383	-0.12521	-10.32200
8	-0.22848	-0.48189	-1.16925	-2.04375	-2.29615	-1.92543	-1.34170	-0.69194	-0.06526	-10.24375
9	-0.21912	-0.32446	-0.70617	-2.20008	-3.15220	-2.28215	-1.25623	-0.50463	0.16955	-10.47550
10	-0.13700	-0.13889	-0.32682	-1.64338	-3.14340	-2.38010	-0.85959	-0.16475	0.43413	-8.35980
11	-0.07455	-0.03599	-0.18435	-0.68541	-2.61640	-2.53105	-0.49197	0.14768	0.79685	-5.67520

N608B — s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

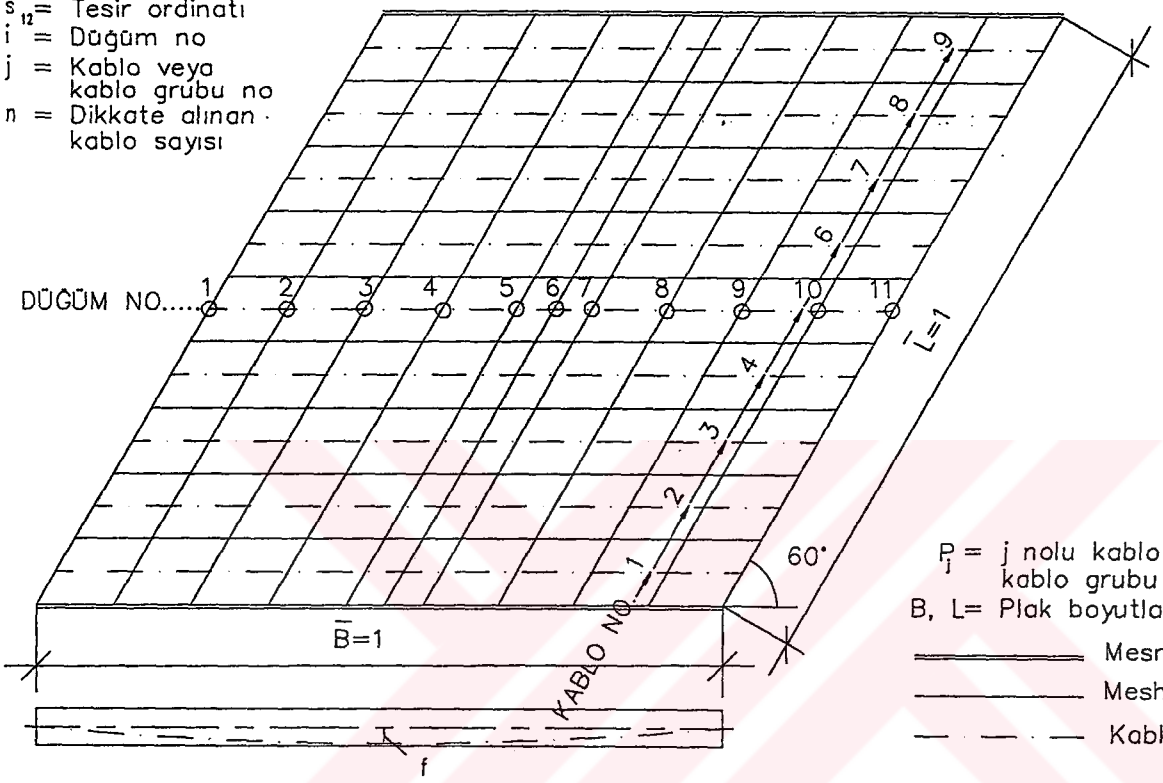
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.45190	1.10422	-0.04553	-2.62865	-1.67095	0.42035	0.03470	0.40494	0.29953	0.37050
2	0.49072	0.24639	-0.19102	-0.24368	-0.11982	-0.63788	-0.52108	0.15178	0.36522	-0.45938
3	-0.28242	-0.09208	0.08716	0.40901	0.54387	0.38305	-0.19990	-0.36810	0.17147	0.65203
4	-0.59426	-0.19618	0.20454	0.56132	0.58095	0.44311	0.23331	-0.20045	-0.36392	0.66843
5	-0.35466	-0.12773	0.20445	0.52558	0.61404	0.42088	0.17041	-0.21584	-0.90445	0.33268
6	-0.49425	-0.12860	0.14788	0.43758	0.60099	0.43758	0.14788	-0.12860	-0.49425	0.52624
7	-0.90445	-0.21584	0.17041	0.42088	0.61404	0.52558	0.20445	-0.12773	-0.35466	0.33268
8	-0.36392	-0.20045	0.23331	0.44311	0.58095	0.56132	0.20454	-0.19618	-0.59426	0.66843
9	0.17147	-0.36810	-0.19990	0.38305	0.54387	0.40901	0.08716	-0.09209	-0.28242	0.65203
10	0.36522	0.15178	-0.52108	-0.63788	-0.11982	-0.24368	-0.19102	0.24639	0.49072	-0.45937
11	0.29953	0.40494	0.03470	0.42035	-1.67095	-2.62865	-0.04553	1.10422	2.45190	0.37050

N608B — s12 TESIR SAYILARI

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N608B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

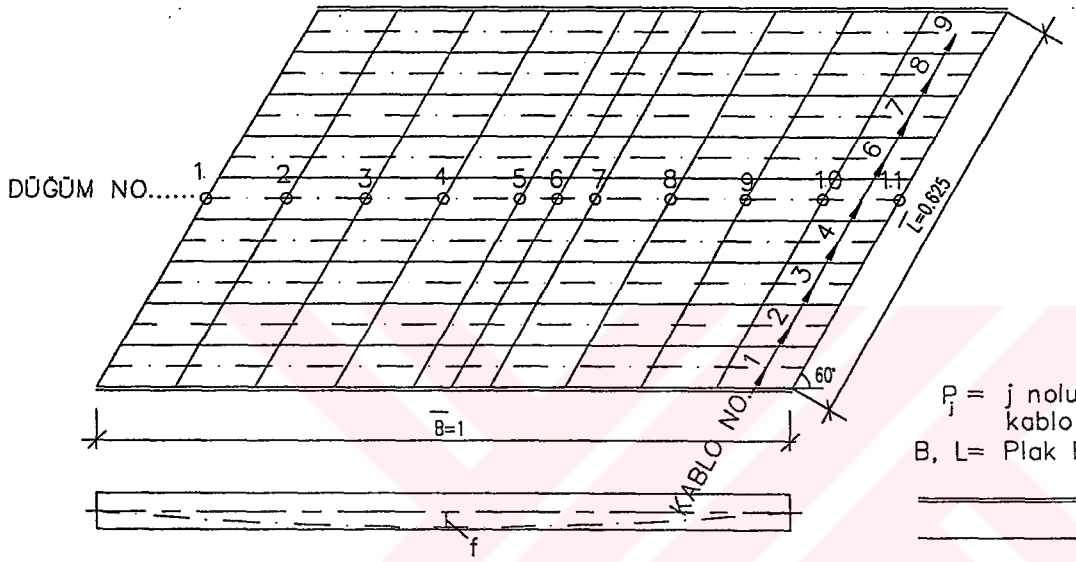
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.88814	0.30668	-0.43220	-1.23945	-2.69105	1.62445	0.71901	0.33870	0.24821	-3.23770
2	0.59141	-0.04684	-0.82924	-1.18373	-0.36773	0.07583	-0.04142	0.08553	0.08778	-1.62848
3	0.15499	-0.12200	-0.36456	-0.36945	0.06057	0.31974	0.03267	-0.22351	-0.37538	-0.88693
4	-0.11256	-0.08731	-0.13274	-0.18943	0.05447	0.30766	0.13178	-0.19894	-0.56030	-0.78737
5	-0.52198	-0.12159	0.02706	0.00109	0.05430	0.23452	0.21546	-0.03142	-0.27107	-0.41363
6	-0.50436	-0.07647	0.16390	0.13640	0.05172	0.13640	0.16390	-0.07647	-0.50436	-0.50936
7	-0.27107	-0.03142	0.21546	0.23452	0.05430	0.00109	0.02706	-0.12159	-0.52198	-0.41363
8	-0.56030	-0.19894	0.13178	0.30766	0.05447	-0.18943	-0.13274	-0.08731	-0.11256	-0.78737
9	-0.37538	-0.22351	0.03267	0.31974	0.06057	-0.36946	-0.36456	-0.12201	0.15499	-0.88693
10	0.08778	0.08553	-0.04142	0.07583	-0.36773	-1.18373	-0.82924	-0.04684	0.59141	-1.62848
11	0.24821	0.33870	0.71901	1.62445	-2.69105	-4.23945	-0.43220	0.30668	0.88814	-3.23770

N609B — mii TESIR SAYILARI

$M_{ii}^{i} = \sum_{j=1}^{n} m_{ii}^{ij} P_j f_j / B$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B

m_{ii}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

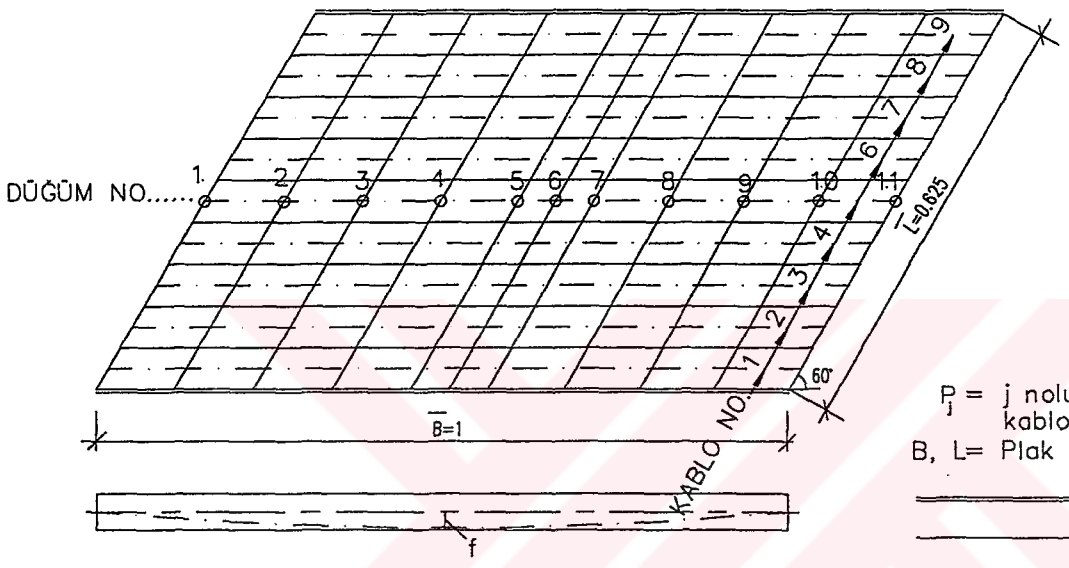
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.02669	0.06915	0.07632	0.08516	-0.03364	-0.11477	-0.04294	-0.01460	-0.00149	0.04988
2	0.01013	0.01816	0.00308	-0.03610	-0.07662	-0.07807	-0.05066	-0.02415	-0.00608	-0.24032
3	0.00067	-0.00736	-0.03213	-0.07053	-0.10102	-0.09951	-0.07592	-0.04595	-0.01494	-0.44670
4	-0.00762	-0.02783	-0.05979	-0.10541	-0.13015	-0.11630	-0.08857	-0.05580	-0.01920	-0.61068
5	-0.01767	-0.05271	-0.08428	-0.12164	-0.15082	-0.12295	-0.07504	-0.04586	-0.01534	-0.68631
6	-0.01720	-0.05127	-0.08835	-0.09871	-0.08880	-0.09858	-0.08828	-0.05124	-0.01719	-0.59962
7	-0.01533	-0.04584	-0.07500	-0.12288	-0.15081	-0.12168	-0.08429	-0.05270	-0.01767	-0.68621
8	-0.01919	-0.05579	-0.08855	-0.11628	-0.13016	-0.10543	-0.05980	-0.02783	-0.00762	-0.61064
9	-0.01493	-0.04592	-0.07588	-0.09946	-0.10099	-0.07050	-0.03210	-0.00734	0.00068	-0.44646
10	-0.00608	-0.02415	-0.05066	-0.07810	-0.07674	-0.03625	0.00297	0.01810	0.01011	-0.24081
11	-0.00148	-0.01458	-0.04290	-0.11470	-0.03340	0.08553	0.07659	0.06931	0.02674	0.05111

N609B — m22 TESIR SAYILARI

$$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

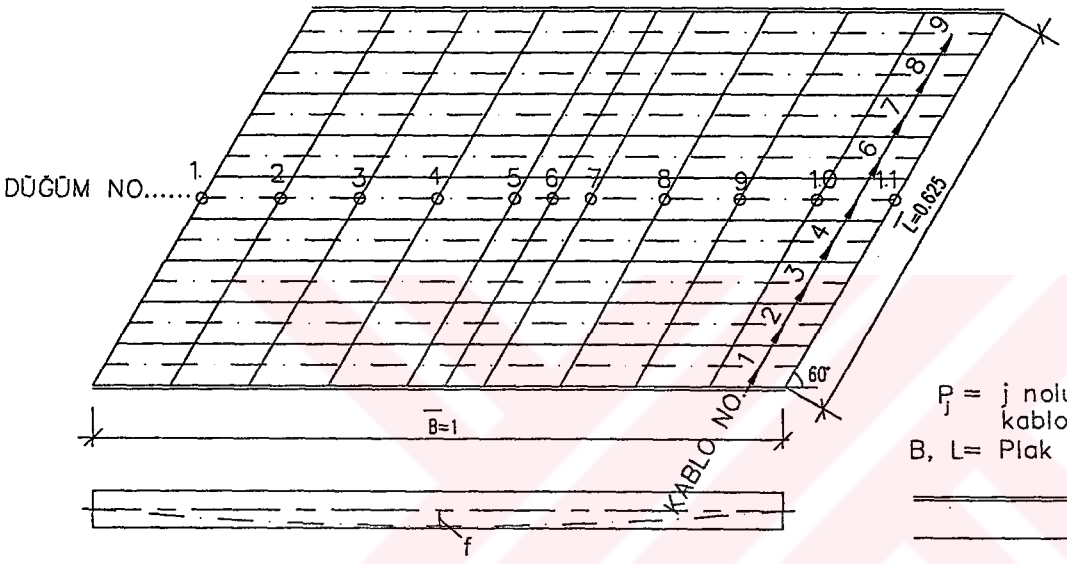
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.18124	-0.51086	-0.77343	-0.94434	-0.89538	-0.63995	-0.39244	-0.21459	-0.06725	-4.61940
2	-0.15977	-0.45622	-0.70541	-0.90712	-0.95873	-0.76735	-0.48976	-0.26600	-0.08301	-4.79335
3	-0.14393	-0.41851	-0.66783	-0.89394	-0.98088	-0.82130	-0.55165	-0.30739	-0.09686	-4.88227
4	-0.13149	-0.38865	-0.63283	-0.86944	-0.97857	-0.83690	-0.57711	-0.33164	-0.10663	-4.85325
5	-0.12260	-0.36895	-0.61572	-0.85124	-0.95606	-0.82925	-0.58835	-0.34710	-0.11382	-4.79310
6	-0.11805	-0.35692	-0.60001	-0.85110	-0.97996	-0.85119	-0.60012	-0.35699	-0.11807	-4.83243
7	-0.11381	-0.34706	-0.58830	-0.82918	-0.95607	-0.85133	-0.61577	-0.36899	-0.12261	-4.79315
8	-0.10661	-0.33160	-0.57705	-0.83682	-0.97859	-0.86954	-0.63292	-0.38870	-0.13150	-4.85333
9	-0.09684	-0.30734	-0.55156	-0.82119	-0.98085	-0.89399	-0.66787	-0.41854	-0.14393	-4.88210
10	-0.08301	-0.26601	-0.48978	-0.76740	-0.95895	-0.90745	-0.70569	-0.45641	-0.15983	-4.79450
11	-0.06712	-0.21416	-0.39164	-0.63863	-0.89370	-0.94269	-0.77211	-0.51001	-0.18093	-4.61095

N609B — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

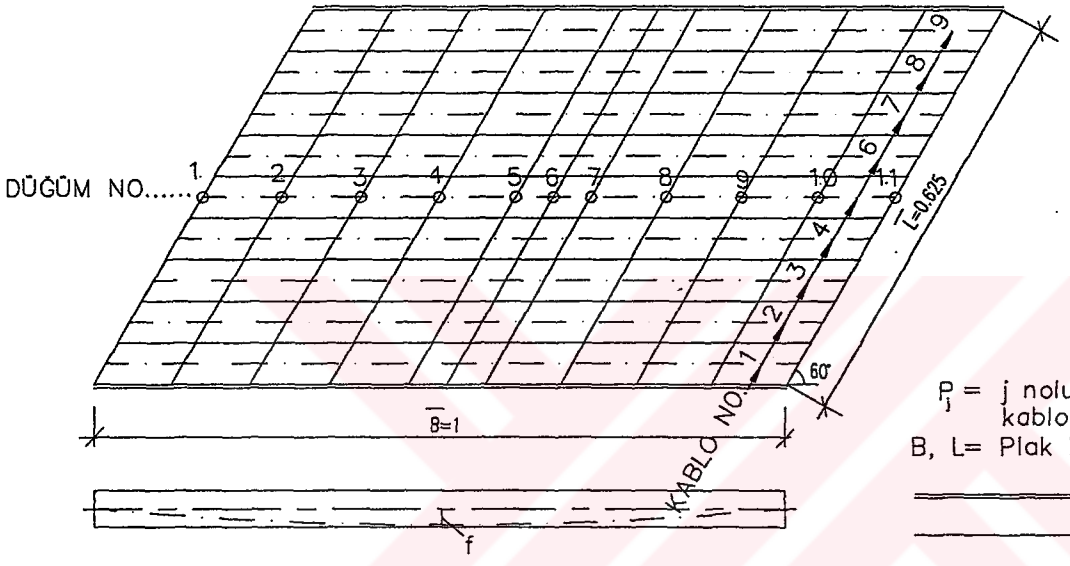
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.03658	-0.11245	-0.18258	-0.25704	-0.24893	-0.15500	-0.08667	-0.04128	-0.01101	-1.13155
2	-0.02101	-0.06432	-0.10329	-0.14280	-0.15714	-0.11337	-0.05975	-0.02645	-0.00574	-0.69388
3	-0.00786	-0.02494	-0.03911	-0.06055	-0.07625	-0.05539	-0.02702	-0.01024	-0.00088	-0.30224
4	-0.00206	-0.00670	-0.00750	-0.02044	-0.03616	-0.02250	-0.00744	-0.00296	0.00056	-0.10518
5	-0.00006	-0.00211	-0.00277	-0.00238	-0.01131	-0.01342	-0.00695	-0.00365	-0.00048	-0.04313
6	-0.00027	-0.00210	-0.00623	-0.02048	-0.03227	-0.02068	-0.00640	-0.00220	-0.00030	-0.09093
7	-0.00042	-0.00348	-0.00666	-0.01301	-0.01093	-0.00213	-0.00261	-0.00202	-0.00003	-0.04127
8	0.00058	-0.00289	-0.00734	-0.02236	-0.03619	-0.02062	-0.00763	-0.00678	-0.00209	-0.10532
9	-0.00086	-0.01019	-0.02693	-0.05528	-0.07631	-0.06077	-0.03927	-0.02504	-0.00790	-0.30255
10	-0.00573	-0.02642	-0.05969	-0.11328	-0.15721	-0.14302	-0.10347	-0.06444	-0.02105	-0.69431
11	-0.01098	-0.04118	-0.08644	-0.15456	-0.24858	-0.25694	-0.18253	-0.11244	-0.03658	-1.13020

N609B — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

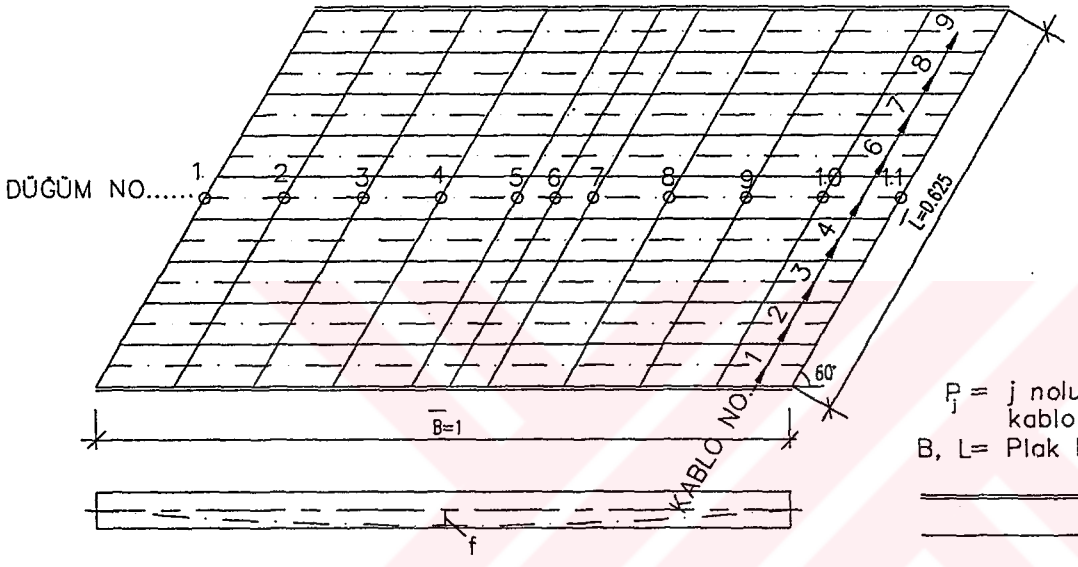
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.14724	0.00068	-1.16690	-4.67885	-5.73615	-2.06015	-0.20359	-0.21075	-0.29396	-13.20250
2	0.26064	-0.62098	-1.58853	-3.61930	-4.79130	-3.10633	-1.15534	-0.45810	-0.37204	-15.45100
3	-0.58401	-1.26128	-1.99995	-2.79038	-3.46373	-3.02920	-1.85317	-1.10869	-0.74080	-16.83100
4	-1.21140	-1.55440	-1.90605	-2.21390	-2.39025	-2.37580	-2.07260	-1.55088	-1.11266	-16.38800
5	-1.44080	-1.65290	-1.85845	-2.03125	-2.14712	-2.13488	-1.97975	-1.74165	-1.46408	-16.45100
6	-1.51522	-1.71235	-1.90285	-2.03085	-2.06235	-2.03078	-1.90345	-1.71388	-1.51760	-16.38925
7	-1.46355	-1.74122	-1.97973	-2.13520	-2.14735	-2.03130	-1.85850	-1.65293	-1.44077	-16.45050
8	-1.11160	-1.54955	-2.07190	-2.37608	-2.39070	-2.21430	-1.90640	-1.55468	-1.21200	-16.38700
9	-0.74032	-1.10761	-1.85148	-3.02938	-3.46545	-2.79113	-2.00018	-1.26133	-0.58418	-16.83100
10	-0.37198	-0.45773	-1.15392	-3.10430	-4.79075	-3.61927	-1.58823	-0.62125	0.25963	-15.44775
11	-0.29426	-0.21109	-0.20386	-2.05555	-5.73205	-4.67840	-1.16595	-0.00028	1.14434	-13.19700

N609B — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

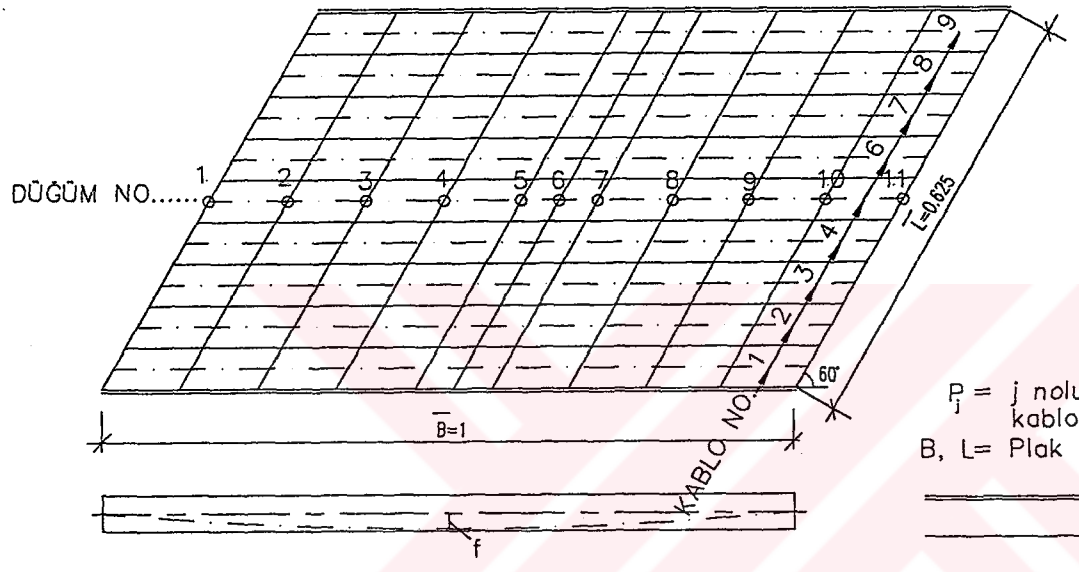
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	3.88755	1.71504	-0.22843	-4.43980	-3.58005	0.74805	0.82937	0.51966	0.24578	-0.30290
2	0.48182	0.24444	0.06195	-0.08292	0.30985	-1.17295	-1.81809	-0.05886	0.60637	-1.42840
3	-0.40238	-0.19521	0.11174	0.43000	0.95892	1.11491	-0.17633	-0.94765	-0.46488	0.42913
4	-0.42248	-0.19201	0.14813	0.45798	0.70263	1.05681	0.74817	-0.26286	-1.00649	1.22990
5	0.03700	0.08510	0.22779	0.36276	0.42519	0.46173	0.44061	-0.04643	-0.97661	1.01711
6	-0.29214	0.11709	0.27075	0.31978	0.35751	0.31970	0.26876	0.11246	-0.29807	1.17580
7	-0.97170	-0.04140	0.44376	0.46245	0.42505	0.36233	0.22617	0.08128	0.02950	1.01745
8	-1.00274	-0.25774	0.75306	1.05825	0.70164	0.45707	0.14681	-0.19463	-0.42789	1.23384
9	-0.46268	-0.94441	-0.17069	1.11835	0.95785	0.42867	0.11022	-0.19761	-0.40688	0.43283
10	0.60632	-0.05770	-1.81458	-1.16666	0.31326	-0.08398	0.05962	0.24116	0.47663	-1.42590
11	0.24336	0.51766	0.82727	0.75905	-3.57275	-4.44395	-0.22996	1.70858	3.87535	-0.31535

N609B — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N609B

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

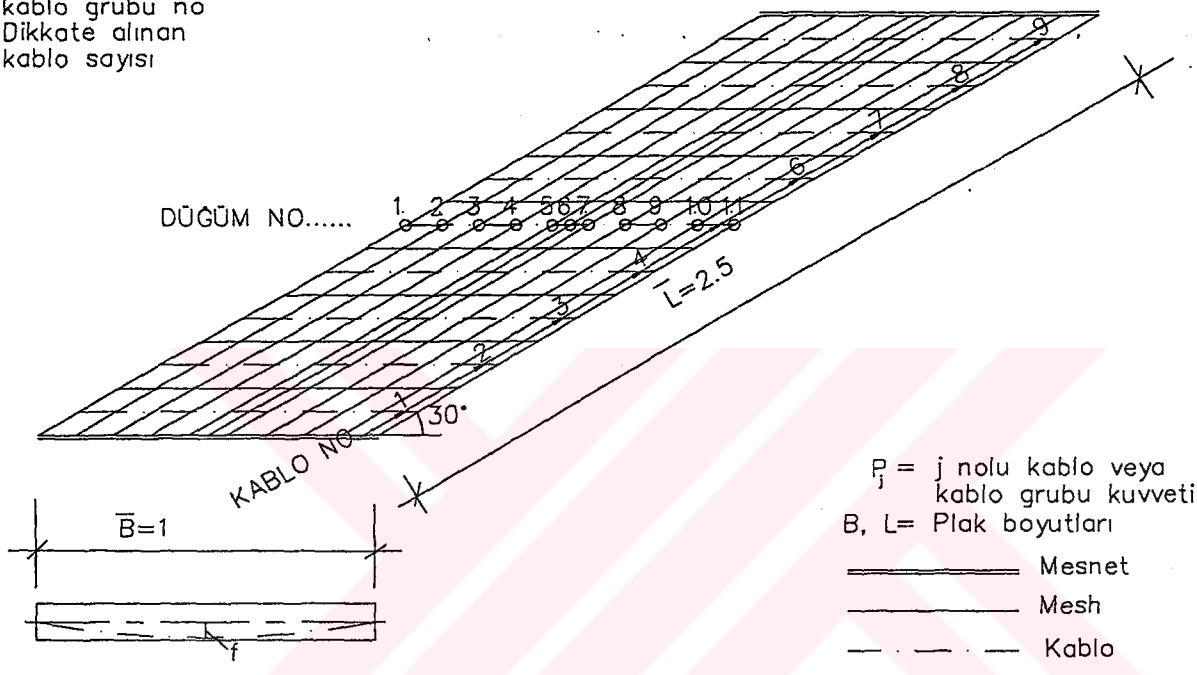
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	1.54801	0.34782	-0.85231	-5.79575	-3.33865	2.26945	0.92801	0.75560	0.75139	-3.38600
2	0.32397	-0.36216	-1.17686	-1.31117	-0.48138	0.55862	0.54928	-0.03808	-0.10691	-2.04467
3	-0.24026	-0.26029	-0.32784	-0.27501	-0.35685	-0.21472	0.36263	0.22488	-0.51603	-1.60351
4	-0.36547	-0.18456	-0.14246	-0.08781	-0.08241	-0.21890	-0.24850	-0.11304	-0.18137	-1.62451
5	-0.62134	-0.29535	-0.13530	-0.03656	0.03117	0.00369	-0.10549	-0.12595	0.03074	-1.25441
6	-0.36962	-0.23437	-0.07566	0.02595	0.03664	0.02585	-0.07438	-0.23120	-0.36370	-1.26047
7	0.02520	-0.12954	-0.10763	0.00300	0.03060	-0.03747	-0.13575	-0.29502	-0.61959	-1.26621
8	-0.18744	-0.11706	-0.25113	-0.21890	-0.08103	-0.08724	-0.14225	-0.18421	-0.36432	-1.63358
9	-0.52098	0.22067	0.35886	-0.21581	-0.35574	-0.27450	-0.32820	-0.26071	-0.24044	-1.61684
10	-0.10982	-0.04077	0.54460	0.55266	-0.48408	-1.31144	-1.17763	-0.36263	0.32387	-2.06525
11	0.74807	0.75291	0.92436	2.25830	-3.34075	-5.78835	-0.85159	0.34729	1.54626	-3.40350

3010B — m11 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N3010B

$$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları
Mesnet
Mesh
Kablo

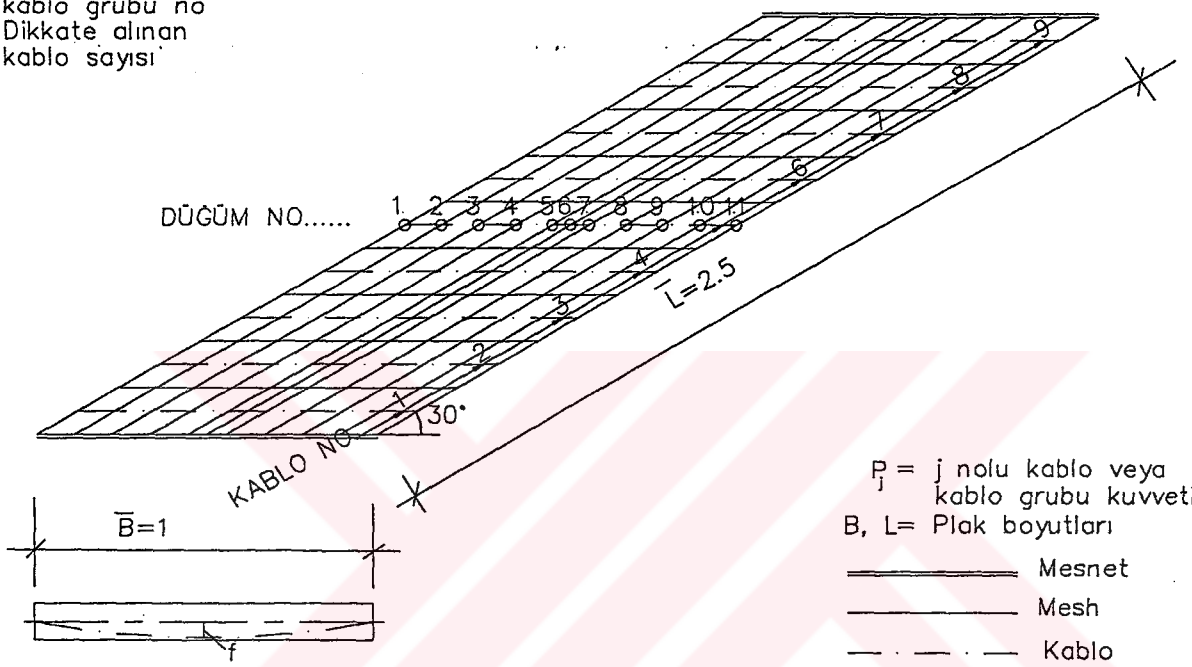
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.11348	-0.39047	-0.66496	-0.76157	-0.44265	0.24679	0.71654	0.67600	0.27530	-0.45850
2	-0.08869	-0.33876	-0.62151	-0.75560	-0.52550	0.11499	0.61512	0.61554	0.25675	-0.72767
3	-0.04420	-0.23897	-0.53208	-0.72634	-0.64306	-0.13605	0.39795	0.49899	0.21901	-1.20476
4	0.00825	-0.11369	-0.41923	-0.67643	-0.69533	-0.34559	0.15823	0.36176	0.17413	-1.54793
5	0.06056	0.02284	-0.29048	-0.64320	-0.71226	-0.45095	-0.03572	0.22096	0.12755	-1.70073
6	0.09454	0.12148	-0.16385	-0.57158	-0.76151	-0.57150	-0.16383	0.12150	0.09455	-1.80020
7	0.12756	0.22096	-0.03571	-0.45092	-0.71228	-0.64324	-0.29048	0.02284	0.06056	-1.70070
8	0.17413	0.36176	0.15823	-0.34558	-0.69533	-0.67644	-0.41924	-0.11369	0.00825	-1.54793
9	0.21902	0.49899	0.39796	-0.13604	-0.64306	-0.72635	-0.53209	-0.23897	-0.04420	-1.20476
10	0.25675	0.61554	0.61512	0.11499	-0.52550	-0.75560	-0.62151	-0.33876	-0.08869	-0.72766
11	0.27530	0.67600	0.71654	0.24679	-0.44265	-0.76157	-0.66496	-0.39047	-0.11348	-0.45850

3010B — m22 TESIR SAYILARI

$M_{22}^{i}=\sum_{j=1}^{n} m_{22}^{ij} P_j f_j/B$

$\frac{\bar{B}}{\bar{L}}=0.40$	Enine kablo	N3010B

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

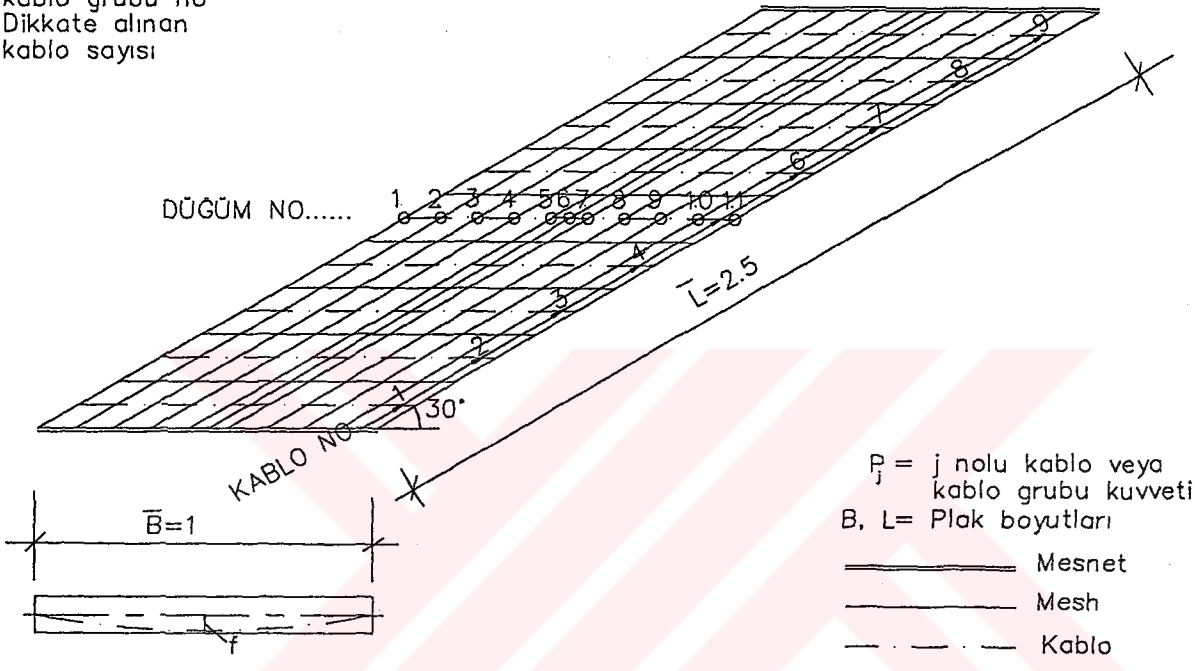
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.43605	-1.21220	-1.70090	-1.75160	-1.19189	-0.62431	-0.42755	-0.24918	-0.08092	-7.67450
2	-0.38395	-1.13695	-1.78245	-2.14530	-1.90868	-1.29457	-0.82946	-0.48953	-0.16185	-10.13273
3	-0.35228	-1.07170	-1.77783	-2.31380	-2.27355	-1.64228	-1.03465	-0.61639	-0.20587	-11.28850
4	-0.32120	-0.98529	-1.69733	-2.34765	-2.49810	-1.94045	-1.23585	-0.71995	-0.24087	-11.98675
5	-0.28329	-0.86326	-1.52210	-2.27023	-2.60152	-2.16718	-1.45305	-0.83816	-0.27888	-12.27750
6	-0.27994	-0.84586	-1.47213	-2.20623	-2.60010	-2.20647	-1.47235	-0.84598	-0.27998	-12.20900
7	-0.27889	-0.83819	-1.45310	-2.16725	-2.60150	-2.27013	-1.52203	-0.86322	-0.28328	-12.27750
8	-0.24087	-0.71994	-1.23581	-1.94045	-2.49810	-2.34765	-1.69733	-0.98529	-0.32120	-11.98675
9	-0.20587	-0.61639	-1.03464	-1.64228	-2.27355	-2.31380	-1.77785	-1.07170	-0.35228	-11.28850
10	-0.16185	-0.48953	-0.82946	-1.29457	-1.90868	-2.14530	-1.78245	-1.13695	-0.38395	-10.13273
11	-0.08092	-0.24918	-0.42755	-0.62432	-1.19189	-1.75160	-1.70090	-1.21220	-0.43605	-7.67450

3010B — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N3010B

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.39674	-1.15630	-1.72260	-1.90610	-1.34265	-0.61396	-0.29861	-0.10300	-0.01875	-7.55865
2	-0.35858	-1.07840	-1.68713	-1.96823	-1.62478	-0.97265	-0.51322	-0.22104	-0.05662	-8.48060
3	-0.31859	-0.98700	-1.63238	-2.01963	-1.86123	-1.26448	-0.70688	-0.34635	-0.09840	-9.23498
4	-0.27602	-0.87293	-1.51983	-2.00798	-2.03413	-1.54513	-0.93453	-0.48277	-0.14426	-9.81757
5	-0.23104	-0.74051	-1.34598	-1.92360	-2.14243	-1.80232	-1.17983	-0.62503	-0.19219	-10.18275
6	-0.21136	-0.68200	-1.26835	-1.86565	-2.13588	-1.86568	-1.26837	-0.68199	-0.21135	-10.19075
7	-0.19220	-0.62505	-1.17985	-1.80240	-2.14243	-1.92350	-1.34595	-0.74049	-0.23103	-10.18275
8	-0.14426	-0.48277	-0.93455	-1.54515	-2.03415	-2.00798	-1.51980	-0.87292	-0.27602	-9.81760
9	-0.09840	-0.34635	-0.70687	-1.26448	-1.86123	-2.01963	-1.63238	-0.98700	-0.31859	-9.23495
10	-0.05663	-0.22104	-0.51322	-0.97265	-1.62478	-1.96823	-1.68713	-1.07840	-0.35858	-8.48060
11	-0.01875	-0.10300	-0.29861	-0.61396	-1.34265	-1.90610	-1.72260	-1.15630	-0.39674	-7.55865

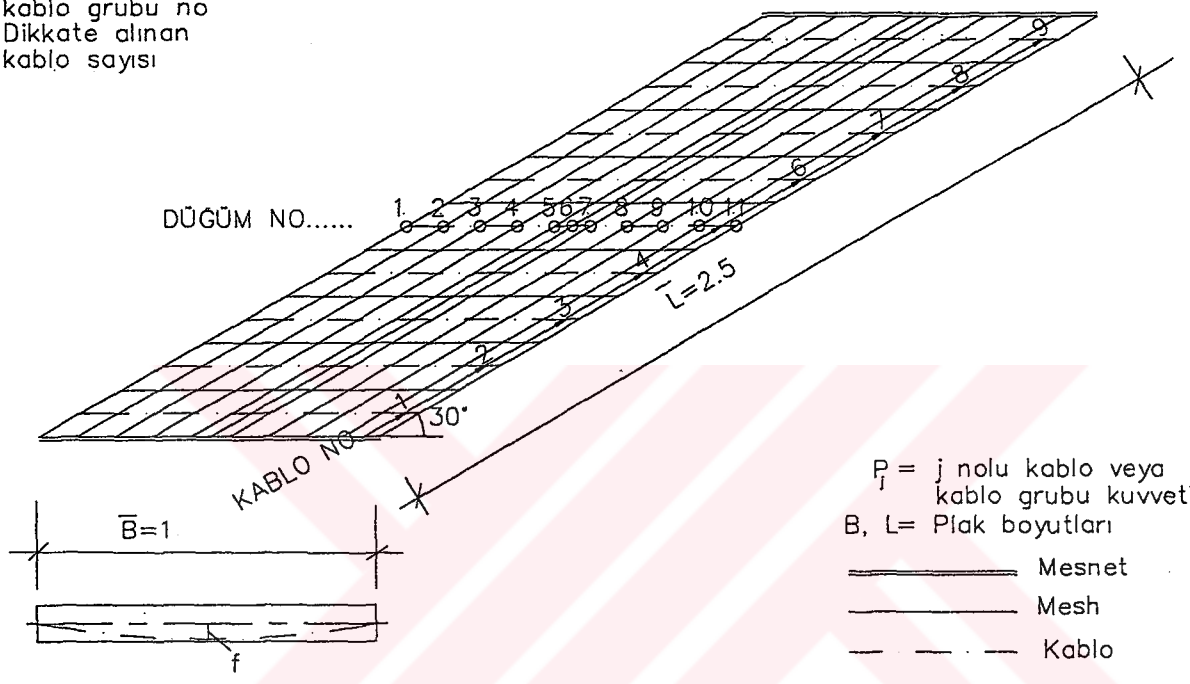
3010B

sİl TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N3010B

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.77081	0.32375	0.03961	-1.69835	-0.34957	0.98603	0.06597	0.06792	0.14861	0.35480
2	-0.08309	0.38920	-0.23425	-2.05410	-1.68049	-0.05005	0.07040	0.01762	0.03976	-3.58499
3	-0.03520	0.14644	-0.44898	-1.87068	-3.06245	-1.80950	-0.01892	0.13293	0.18552	-6.78080
4	0.07363	0.05609	-0.50992	-1.78993	-2.82005	-1.78637	-0.28873	-0.10068	0.07965	-7.08630
5	-0.21539	-0.08371	-0.48137	-1.78638	-2.61713	-1.74285	-0.41322	0.07169	0.09258	-7.17578
6	0.10672	-0.06337	-0.57379	-1.77845	-2.53525	-1.77858	-0.57372	-0.06262	0.10781	-7.15120
7	0.09319	0.07217	-0.41308	-1.74292	-2.61717	-1.78637	-0.48129	-0.08405	-0.21622	-7.17580
8	0.07965	-0.10069	-0.28875	-1.78643	-2.82010	-1.78995	-0.50994	0.05608	0.07374	-7.08630
9	0.18555	0.13293	-0.01892	-1.80950	-3.06245	-1.87068	-0.44898	0.14642	-0.03521	-6.78080
10	0.03978	0.01762	0.07040	-0.05005	-1.68049	-2.05410	-0.23425	0.38920	-0.08309	-3.58499
11	0.14863	0.06791	0.06597	0.98603	-0.34958	-1.69835	0.03960	0.32374	0.77082	0.35480

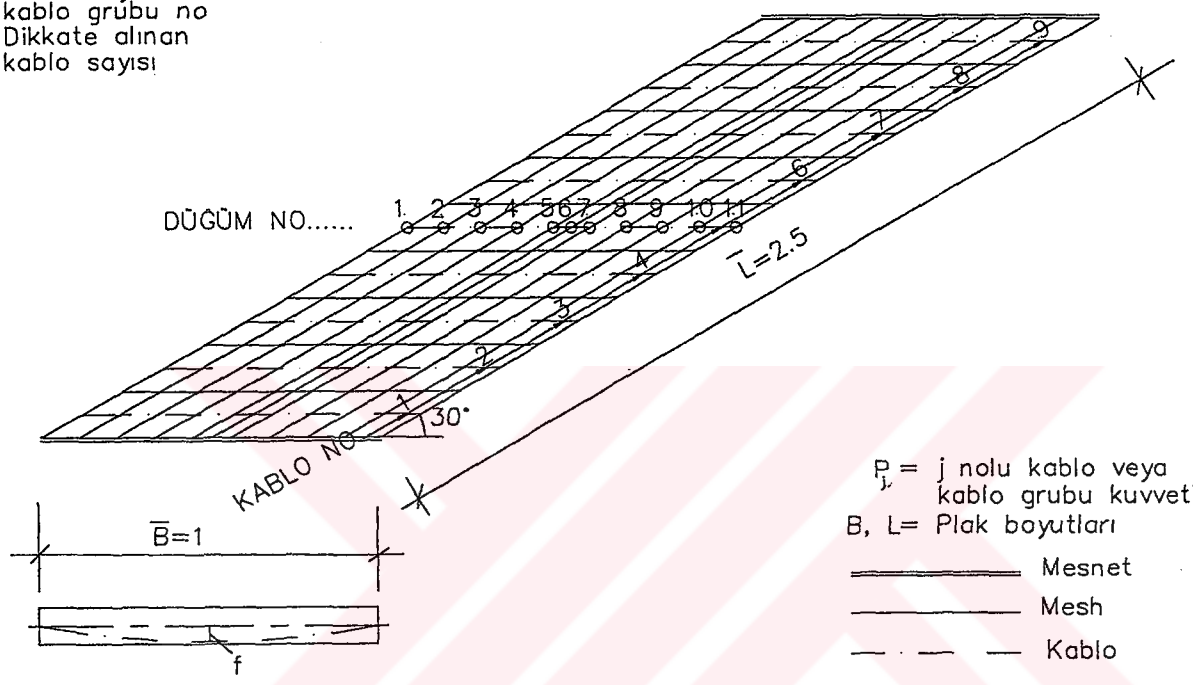
3010B

s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N3010B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

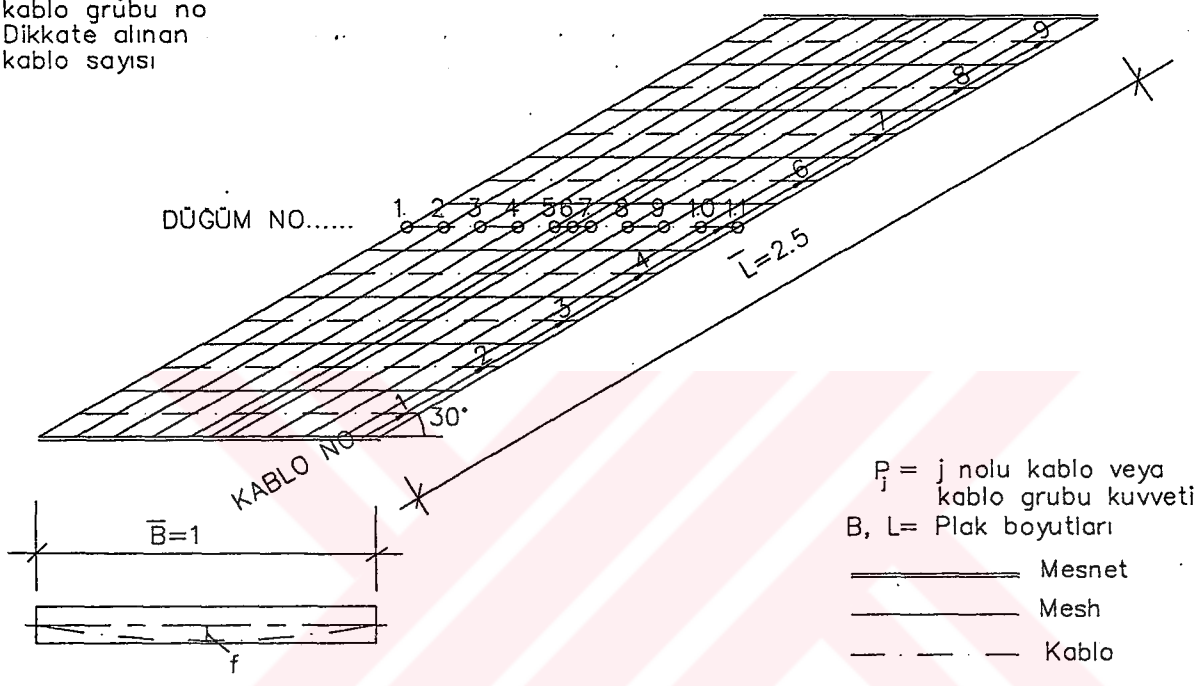
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	4.49948	-1.27574	1.08816	1.60484	0.38463	-1.05887	-0.27555	0.19681	0.66716	5.83080
2	-0.52729	0.00897	0.28497	-0.18115	0.00216	1.26439	0.82674	-0.43892	-0.86149	0.37840
3	-0.33855	-0.20140	-0.04650	0.60958	-0.73412	-0.54968	0.83622	0.64434	0.30610	0.52597
4	0.09774	-0.16563	-0.25848	0.36479	0.09745	-0.48197	-0.22113	0.11404	0.48365	0.03047
5	-1.27898	-0.70621	-0.28743	0.18433	0.56975	-0.33359	0.06976	1.04510	0.59285	-0.14445
6	1.04862	-0.26252	-1.01389	-0.14220	0.89152	-0.14267	-1.01346	-0.25785	1.05605	0.16362
7	0.59649	1.04777	0.07021	-0.33389	0.56978	0.18480	-0.28719	-0.70846	-1.28397	-0.14446
8	0.48385	0.11413	-0.22114	-0.48205	0.09726	0.36464	-0.25860	-0.16569	0.09809	0.03047
9	0.30615	0.64431	0.83621	-0.54964	-0.73412	0.60954	-0.04665	-0.20157	-0.33830	0.52596
10	-0.86144	-0.43889	0.82677	1.26440	0.00218	-0.18114	0.28497	0.00893	-0.52739	0.37840
11	0.66721	0.19681	-0.27555	-1.05886	0.38463	1.60484	1.08810	-1.27579	4.49950	5.83080

3010B — s12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 0.40$	Enine kablo	N3010B

$$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

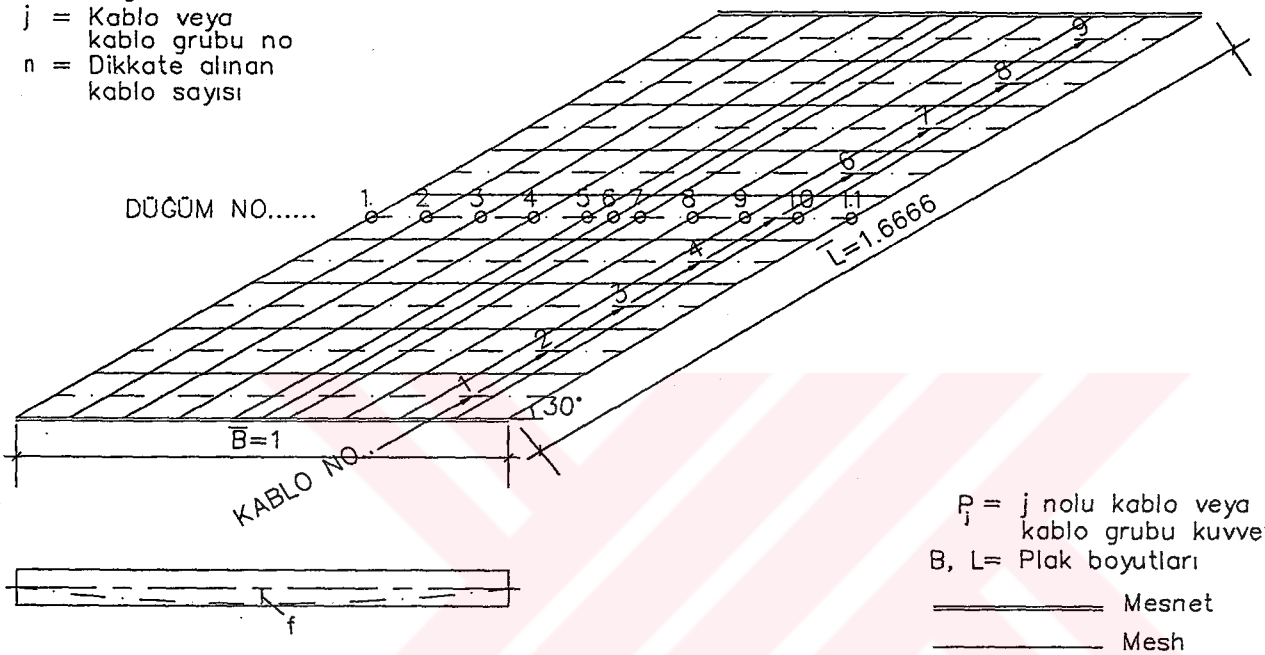
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.92126	0.85174	-0.57464	-3.64755	-2.27375	0.63265	-0.20117	-0.06052	-0.00056	-6.19500
2	0.06856	0.16069	-0.04924	-0.87424	-1.18146	-0.36524	-0.01499	-0.01009	0.22431	-2.04172
3	-0.07560	0.00664	0.11875	-0.21870	0.13444	0.25982	-0.14713	-0.12733	-0.13607	-0.18518
4	-0.20047	-0.14074	0.06313	0.10192	0.25452	0.08507	-0.13467	0.07898	-0.09038	0.01733
5	0.26114	-0.04130	-0.08670	0.19194	0.25456	0.15696	-0.21615	-0.31137	-0.12611	0.08297
6	-0.22026	-0.09579	0.03402	0.20459	0.18361	0.20450	0.03374	-0.09697	-0.22183	0.02562
7	-0.12701	-0.31205	-0.21630	0.15707	0.25461	0.19187	-0.08679	-0.04077	0.26236	0.08298
8	-0.09040	0.07897	-0.13466	0.08510	0.25455	0.10194	0.06318	-0.14071	-0.20064	0.01733
9	-0.13607	-0.12733	-0.14713	0.25981	0.13442	-0.21871	0.11877	0.00668	-0.07561	-0.18517
10	0.22431	-0.01010	-0.01500	-0.36525	-1.18147	-0.87425	-0.04926	0.16069	0.06864	-2.04172
11	-0.00056	-0.06054	-0.20118	0.63264	-2.27380	-3.64755	-0.57464	0.85174	-0.92120	-6.19500

3011B — m11 TESIR SAYILARI

$M_{11}^{i} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

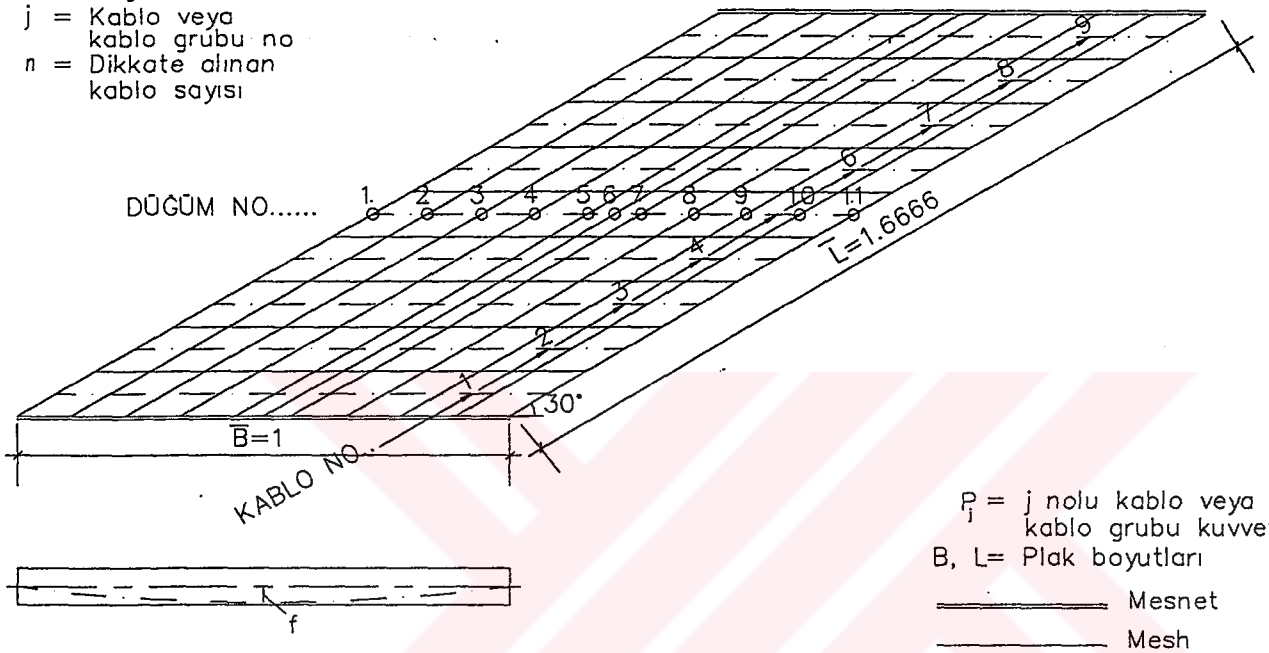
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.03307	-0.11747	-0.24465	-0.34693	-0.32405	-0.04133	0.23899	0.24605	0.10309	-0.51936
2	-0.01822	-0.07349	-0.15599	-0.24267	-0.23800	0.00454	0.25874	0.27346	0.11530	-0.07633
3	0.00699	-0.00271	-0.03900	-0.09492	-0.12648	0.00141	0.21537	0.27368	0.12058	0.35490
4	0.03560	0.06978	0.06630	0.04364	0.01891	0.06893	0.19556	0.25044	0.11641	0.86557
5	0.06159	0.12304	0.10503	0.09388	0.12631	0.16682	0.20922	0.22132	0.10290	1.21010
6	0.08414	0.17445	0.16346	0.11510	0.08385	0.11495	0.16323	0.17424	0.08406	1.15748
7	0.10298	0.22154	0.20949	0.16703	0.12637	0.09375	0.10480	0.12282	0.06150	1.21028
8	0.11647	0.25062	0.19583	0.06912	0.01890	0.04350	0.06612	0.06961	0.03553	0.86571
9	0.12060	0.27376	0.21556	0.00161	-0.12649	-0.09507	-0.03915	-0.00283	0.00694	0.35493
10	0.11528	0.27342	0.25879	0.00473	-0.23790	-0.24272	-0.15600	-0.07349	-0.01822	-0.07612
11	0.10312	0.24614	0.23914	-0.04108	-0.32403	-0.34728	-0.24503	-0.11775	-0.03317	-0.51994

30118 m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B

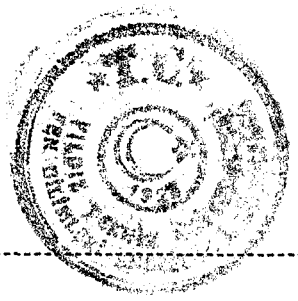
m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.29530	-0.76923	-1.00016	-0.95145	-0.53399	-0.16661	-0.09675	-0.05663	-0.01770	-3.88785
2	-0.28093	-0.78333	-1.13825	-1.29658	-1.10723	-0.65427	-0.32582	-0.17098	-0.05296	-5.81035
3	-0.26925	-0.78907	-1.23115	-1.53372	-1.48955	-1.03036	-0.56341	-0.29410	-0.09388	-7.29448
4	-0.25190	-0.76853	-1.27938	-1.69460	-1.78273	-1.39425	-0.84788	-0.44502	-0.14054	-8.60480
5	-0.21258	-0.67568	-1.20412	-1.73045	-1.93900	-1.64580	-1.11947	-0.62203	-0.19881	-9.34793
6	-0.20475	-0.64582	-1.15115	-1.69710	-1.97428	-1.69760	-1.15155	-0.64603	-0.20481	-9.37315
7	-0.19875	-0.62181	-1.11908	-1.64525	-1.93892	-1.73088	-1.20448	-0.67591	-0.21264	-9.34773
8	-0.14048	-0.44481	-0.84743	-1.39355	-1.78242	-1.69485	-1.27960	-0.76871	-0.25197	-8.60380
9	-0.09384	-0.29397	-0.56309	-1.02972	-1.48922	-1.53390	-1.23133	-0.78920	-0.26930	-7.29355
10	-0.05294	-0.17091	-0.32566	-0.65378	-1.10685	-1.29665	-1.13830	-0.78340	-0.28097	-5.80940
11	-0.01769	-0.05661	-0.09681	-0.16674	-0.53433	-0.95210	-1.00088	-0.76977	-0.29550	-3.89045

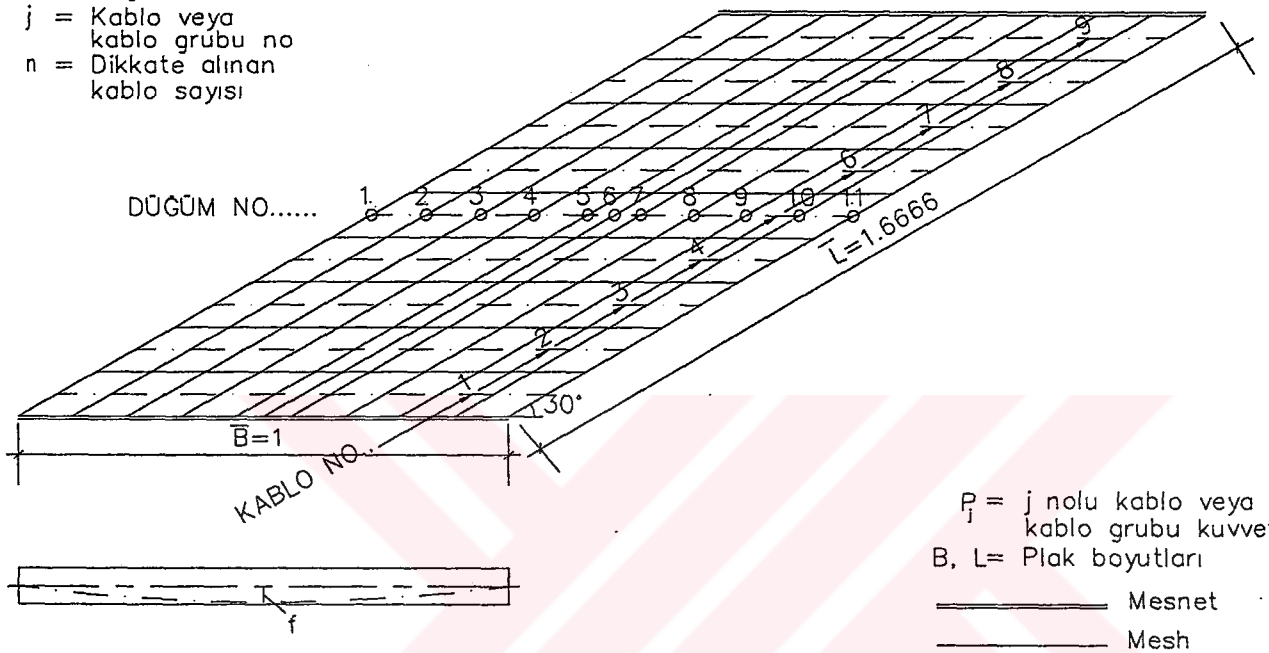


30118 — m12 TESIR SAYILARI

$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.26135	-0.71013	-0.97747	-1.04080	-0.64787	-0.19864	-0.07322	-0.00357	0.00678	-3.90620
2	-0.24472	-0.66950	-0.93138	-1.00000	-0.76651	-0.37084	-0.11900	-0.01373	0.00754	-4.10815
3	-0.22408	-0.63183	-0.91091	-1.01453	-0.88544	-0.53152	-0.21198	-0.06180	-0.00726	-4.47933
4	-0.19156	-0.56674	-0.87834	-1.03547	-0.99780	-0.74311	-0.40526	-0.17010	-0.04244	-5.03083
5	-0.14308	-0.45231	-0.76365	-1.00570	-1.08305	-0.93581	-0.63409	-0.32482	-0.09479	-5.43728
6	-0.11943	-0.39194	-0.70605	-0.97706	-1.08720	-0.97730	-0.70626	-0.39209	-0.11948	-5.47680
7	-0.09473	-0.32465	-0.63380	-0.93549	-1.08295	-1.00582	-0.76381	-0.45244	-0.14312	-5.43683
8	-0.04238	-0.16990	-0.40490	-0.74261	-0.99748	-1.03540	-0.87837	-0.56681	-0.19159	-5.02945
9	-0.00721	-0.06164	-0.21168	-0.53099	-0.88499	-1.01432	-0.91081	-0.63183	-0.22409	-4.47758
10	0.00760	-0.01357	-0.11874	-0.37035	-0.76605	-0.99982	-0.93133	-0.66955	-0.24476	-4.10660
11	0.00681	-0.00349	-0.07311	-0.19848	-0.64779	-1.04095	-0.97771	-0.71035	-0.26144	-3.90650

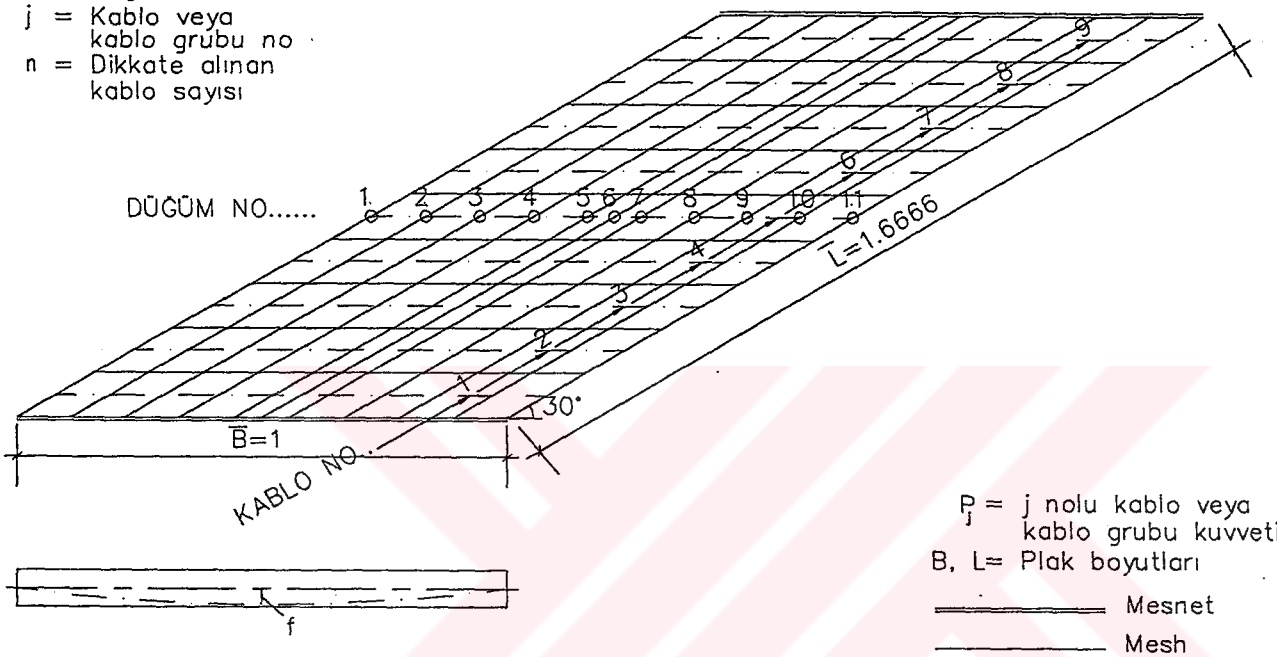
3011B

s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=i}^{n} s_{11}^{ij} p_j \frac{\bar{L}}{L}$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

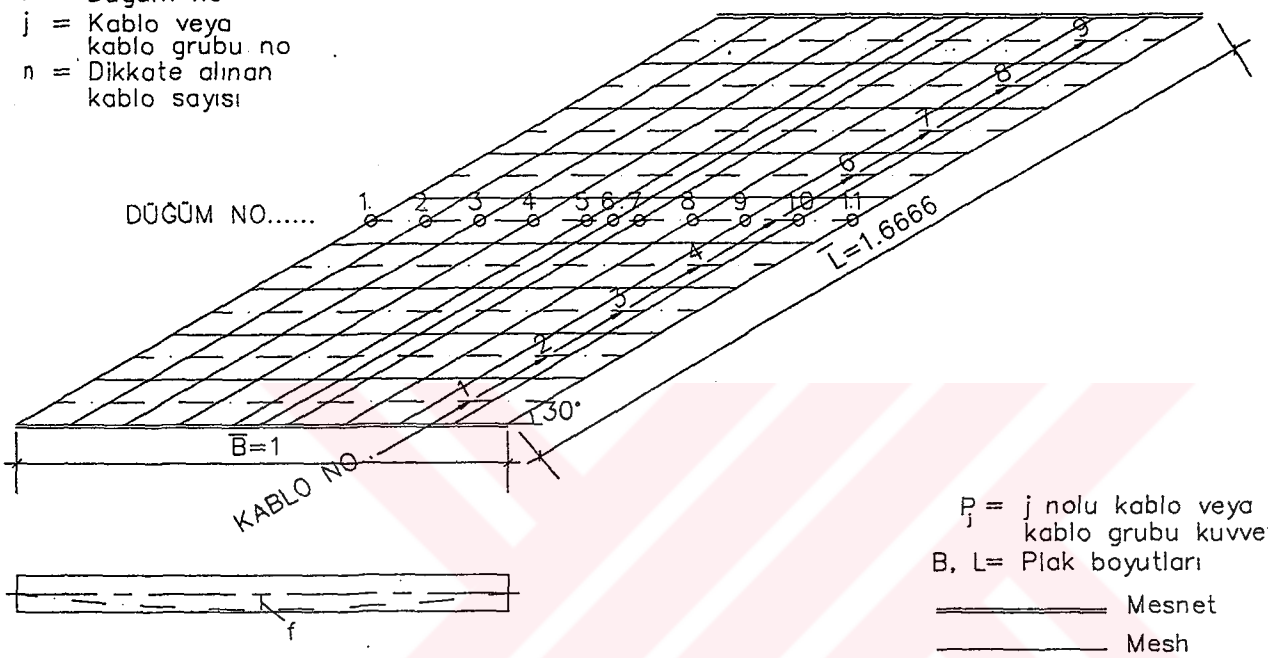
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.25937	-0.31120	-1.61720	-3.11840	-1.19390	0.85674	-0.04309	-0.00793	0.01401	-5.16160
2	0.21426	-0.15165	-1.40022	-3.12787	-3.11413	-0.81290	0.23271	0.01747	-0.00762	-8.15008
3	0.08887	-0.32785	-1.36414	-2.53165	-4.07090	-2.76003	-0.26097	0.09965	0.08727	-11.03990
4	0.06007	-0.40167	-1.44835	-2.33200	-3.09708	-2.56455	-0.99128	-0.17614	0.00225	-10.94860
5	0.01770	-0.44894	-1.56748	-2.40770	-2.69430	-2.39050	-1.11845	-0.20049	-0.08508	-10.89525
6	-0.01461	-0.25860	-1.36760	-2.49123	-2.73543	-2.49223	-1.36888	-0.25866	-0.01417	-11.00150
7	-0.08533	-0.20058	-1.11740	-2.38942	-2.69450	-2.40883	-1.56898	-0.44913	0.01824	-10.89575
8	0.00190	-0.17685	-0.99047	-2.56325	-3.09753	-2.33340	-1.44993	-0.40183	0.06067	-10.95075
9	0.08704	0.09899	-0.26161	-2.75790	-4.06930	-2.53328	-1.36584	-0.32828	0.08929	-11.04080
10	-0.00743	0.01768	0.23184	-0.81040	-3.11280	-3.13065	-1.40193	-0.15243	0.21450	-8.15155
11	0.01416	-0.00760	-0.04229	0.85903	-1.19560	-3.12220	-1.61865	-0.31196	0.25967	-5.16540

3011B — s22 TESIR SAYILARI

$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

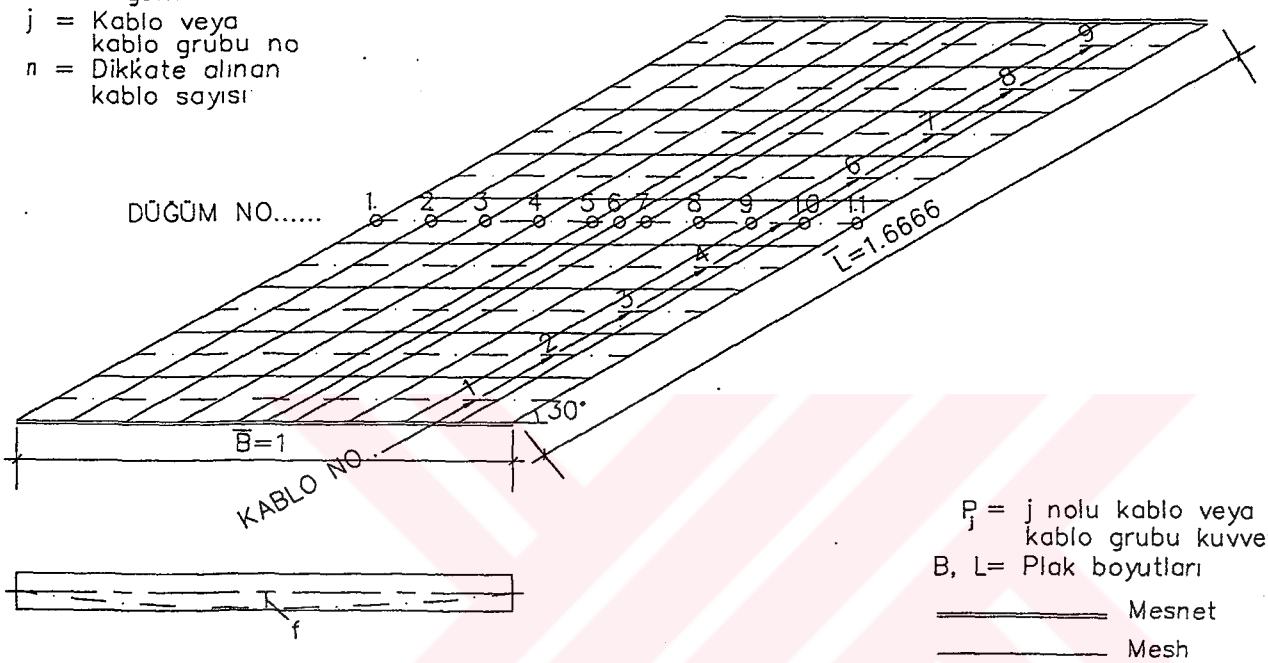
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.25196	-1.52177	-0.95689	1.39395	1.93435	0.23742	-0.72934	-0.03211	0.08127	0.15495
2	-0.04718	0.10527	0.20677	-0.23392	-0.73697	1.25025	1.53186	-0.41578	-0.24863	1.41170
3	-0.29964	-0.12079	0.56587	0.81870	-0.67471	-0.94466	1.00284	1.15471	0.31361	1.81596
4	-0.38221	-0.61381	0.10326	0.80643	0.65674	-0.77328	-0.68613	0.55965	0.28734	-0.04201
5	-0.20879	-1.11694	-1.18015	0.01452	0.89932	0.64142	-0.04383	0.14854	0.22098	-0.62496
6	0.38505	0.05165	-0.65870	-0.35324	-0.05651	-0.35432	-0.65859	0.05463	0.38748	-1.20260
7	0.21874	0.14591	-0.04488	0.64093	0.89832	0.01214	-1.18137	-1.11376	-0.20556	-0.62955
8	0.28465	0.55469	-0.68897	-0.77498	0.65384	0.80275	0.10098	-0.60955	-0.37755	-0.05410
9	0.31241	1.15020	0.99666	-0.94871	-0.67636	0.81666	0.56325	-0.11706	-0.29488	1.80232
10	-0.24767	-0.41519	1.52815	1.24545	-0.73635	-0.23159	0.20514	0.10650	-0.04411	1.41030
11	0.08217	-0.03015	-0.72535	0.23382	1.93140	1.39925	-0.95710	-1.52126	-0.24952	0.16325

3011B — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 0.60$	Enine kablo	N3011B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.65857	0.80862	-0.83742	-5.28375	-2.69645	1.54274	-0.00876	0.05807	0.00969	-5.74850
2	0.26749	0.30767	-0.39285	-1.09076	-1.00948	-0.26619	0.08647	0.06559	0.06472	-1.96733
3	0.08942	0.20160	-0.01056	-0.39800	0.32555	0.33474	-0.32374	-0.17555	-0.11787	-0.07442
4	-0.08006	0.10366	0.26792	0.03583	0.08195	0.32587	-0.04633	-0.24887	-0.00699	0.43299
5	-0.21495	0.00617	0.50662	0.35879	0.10103	0.21969	-0.02901	-0.39997	-0.17901	0.36936
6	-0.29613	-0.33952	0.27407	0.46507	0.29530	0.46523	0.27436	-0.33974	-0.29655	0.50212
7	-0.17834	-0.39955	-0.02936	0.21962	0.10122	0.35918	0.50708	0.00596	-0.21539	0.37042
8	-0.00685	-0.24806	-0.04599	0.32590	0.08261	0.03641	0.26839	0.10322	-0.08068	0.43493
9	-0.11759	-0.17492	-0.32304	0.33485	0.32545	-0.39764	-0.01019	0.20112	0.08878	-0.07317
10	0.06454	0.06545	0.08653	-0.26489	-1.00758	-1.09034	-0.39283	0.30744	0.26700	-1.96466
11	0.00954	0.05772	-0.00906	1.53881	-2.70515	-5.28940	-0.83808	0.80824	0.65810	-5.76920

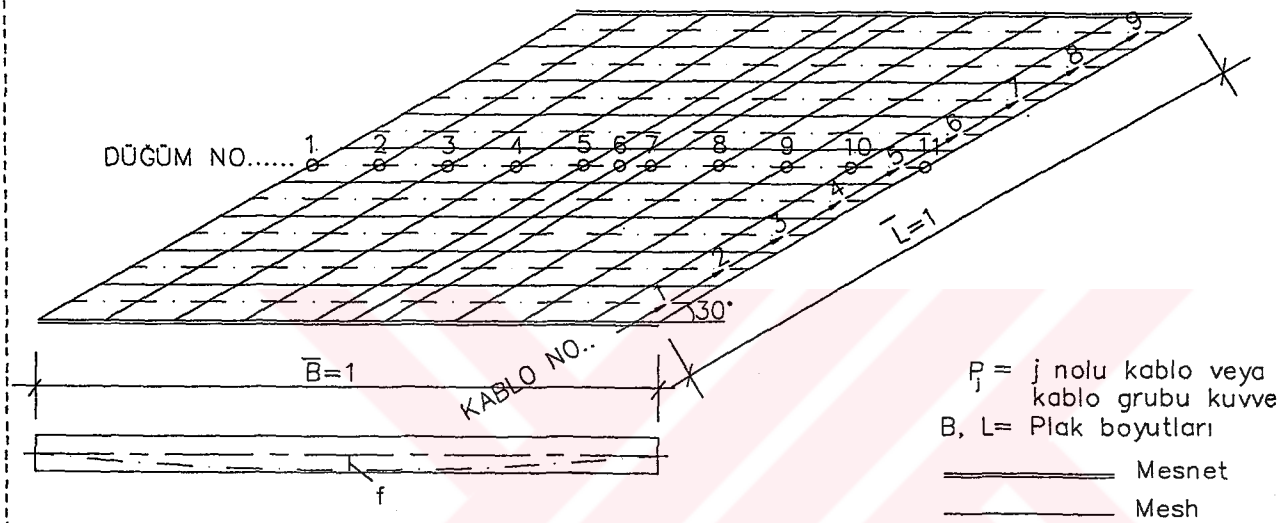
3012B

m11 TESIR SAYILARI

$M_{i1}=\sum_{j=1}^{n} m_{11}^{ij} P_j f_{ij}/B$

$\frac{\bar{B}}{\bar{L}}=1$	Enine kablo	N3012B

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları
Mesnet
Mesh
Kablo

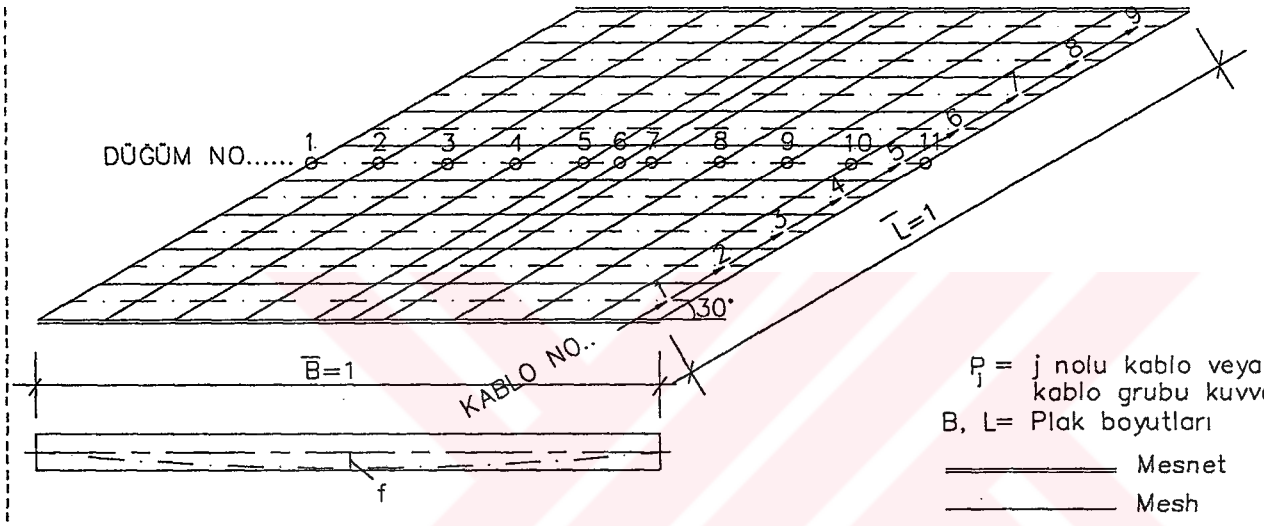
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.00676	-0.04490	-0.15368	-0.23867	-0.34916	-0.28132	-0.06449	-0.00445	0.00476	-1.13865
2	0.01425	0.01157	-0.04899	-0.15705	-0.25244	-0.21492	-0.08729	-0.00795	0.00613	-0.73669
3	0.04428	0.10286	0.09680	0.02985	-0.06320	-0.11269	-0.07969	-0.01772	0.00412	0.00462
4	0.06005	0.15563	0.20458	0.17763	0.10955	0.05639	0.02017	0.01285	0.00815	0.80501
5	0.04291	0.11493	0.15649	0.18623	0.19752	0.18535	0.14565	0.08721	0.03114	1.14740
6	0.03749	0.10606	0.15425	0.17802	0.18466	0.17802	0.15425	0.10606	0.03749	1.13625
7	0.03114	0.08721	0.14565	0.18535	0.19752	0.18623	0.15649	0.11493	0.04291	1.14740
8	0.00815	0.01285	0.02017	0.05639	0.10955	0.17763	0.20458	0.15563	0.06005	0.80501
9	0.00412	-0.01772	-0.07969	-0.11269	-0.06320	0.02985	0.09680	0.10286	0.04428	0.00462
10	0.00613	-0.00795	-0.08729	-0.21492	-0.25245	-0.15705	-0.04899	0.01157	0.01425	-0.73669
11	0.00476	-0.00445	-0.06449	-0.28132	-0.34916	-0.23867	-0.15368	-0.04490	-0.00676	-1.13865

3012B | m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_{ij}/B$

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N3012B

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

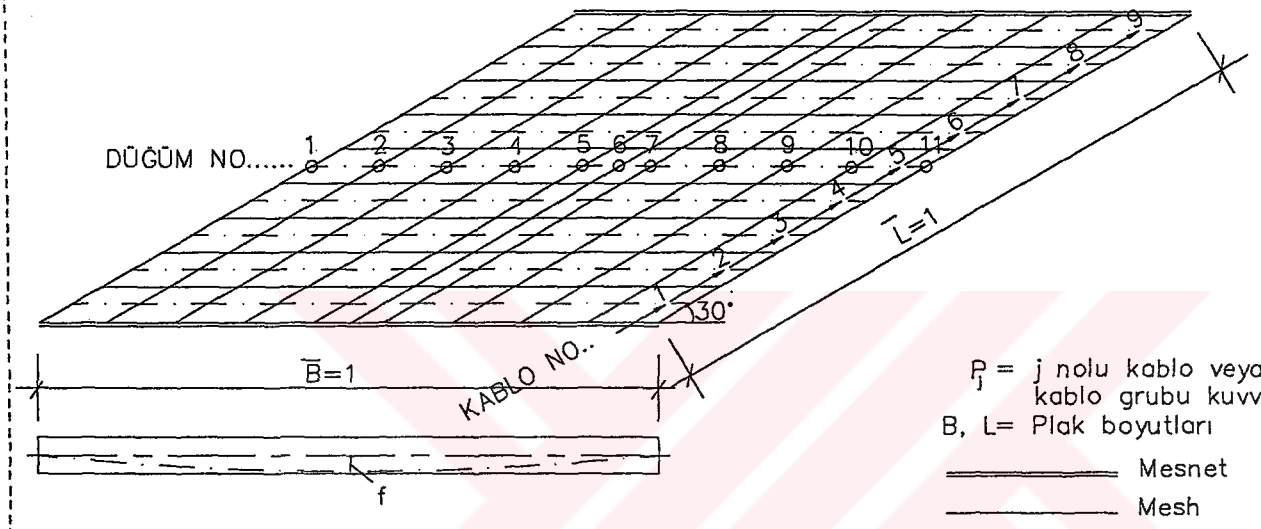
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.18727	-0.47779	-0.61160	-0.56163	-0.30115	-0.06114	-0.00837	-0.01246	-0.00462	-2.22600
2	-0.18176	-0.49544	-0.70730	-0.81870	-0.73933	-0.44762	-0.18920	-0.07683	-0.02100	-3.67715
3	-0.18340	-0.51727	-0.77981	-0.96621	-0.97037	-0.71288	-0.38365	-0.16409	-0.04322	-4.72093
4	-0.16594	-0.48686	-0.76897	-0.99932	-1.06681	-0.86085	-0.53379	-0.25988	-0.07137	-5.21375
5	-0.13212	-0.40664	-0.69765	-0.95705	-1.04866	-0.90535	-0.63062	-0.34625	-0.10623	-5.23058
6	-0.12342	-0.39325	-0.67972	-0.98270	-1.14555	-0.98270	-0.67972	-0.39325	-0.12343	-5.50370
7	-0.10623	-0.34625	-0.63062	-0.90535	-1.04866	-0.95705	-0.69765	-0.40664	-0.13212	-5.23058
8	-0.07137	-0.25988	-0.53379	-0.86085	-1.06682	-0.99932	-0.76897	-0.48686	-0.16594	-5.21375
9	-0.04322	-0.16409	-0.38365	-0.71289	-0.97037	-0.96621	-0.77981	-0.51727	-0.18340	-4.72093
10	-0.02100	-0.07683	-0.18920	-0.44762	-0.73933	-0.81870	-0.70730	-0.49544	-0.18176	-3.67715
11	-0.00462	-0.01246	-0.00837	-0.06114	-0.30115	-0.56163	-0.61160	-0.47779	-0.18727	-2.22600

3012B — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N3012B

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

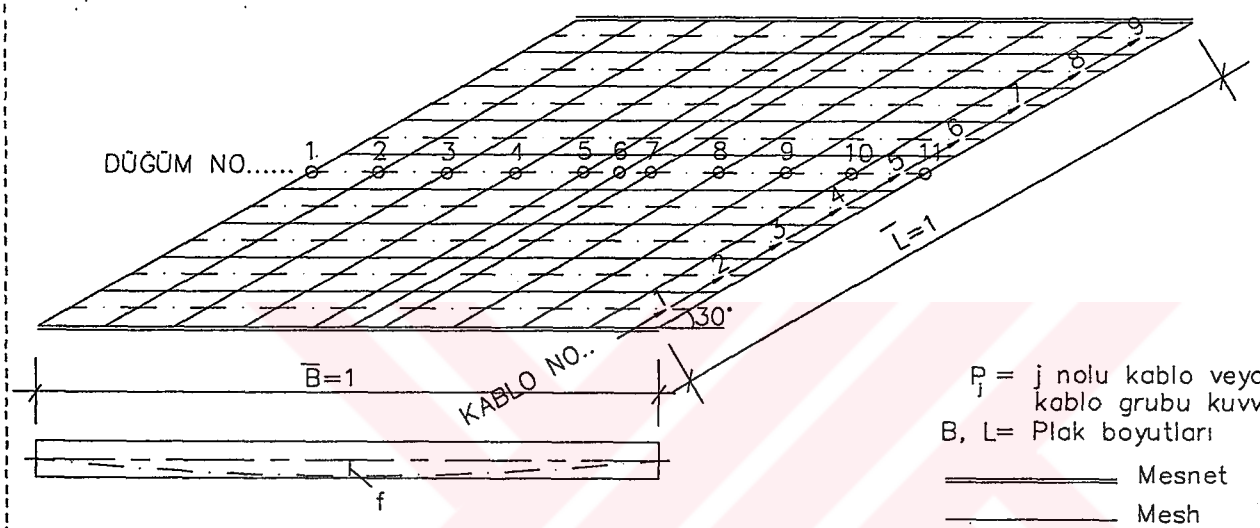
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.15849	-0.42986	-0.58505	-0.64629	-0.40212	-0.11052	-0.06095	-0.02544	-0.00550	-2.42420
2	-0.13914	-0.37116	-0.50566	-0.55705	-0.47076	-0.25500	-0.09278	-0.02976	-0.00462	-2.42590
3	-0.11700	-0.31338	-0.42568	-0.48235	-0.46125	-0.30796	-0.13278	-0.03553	-0.00251	-2.27843
4	-0.07584	-0.20916	-0.29142	-0.33028	-0.33446	-0.25521	-0.13175	-0.04044	-0.00163	-1.67020
5	-0.02949	-0.08619	-0.13339	-0.17167	-0.18879	-0.17376	-0.12355	-0.05572	-0.01211	-0.97466
6	-0.01758	-0.06438	-0.10558	-0.16217	-0.20677	-0.16217	-0.10558	-0.06438	-0.01758	-0.90619
7	-0.01211	-0.05572	-0.12355	-0.17376	-0.18879	-0.17167	-0.13339	-0.08619	-0.02949	-0.97466
8	-0.00163	-0.04044	-0.13175	-0.25521	-0.33446	-0.33028	-0.29142	-0.20916	-0.07584	-1.67020
9	-0.00251	-0.03553	-0.13278	-0.30796	-0.46125	-0.48235	-0.42568	-0.31338	-0.11700	-2.27843
10	-0.00462	-0.02976	-0.09278	-0.25500	-0.47076	-0.55705	-0.50566	-0.37116	-0.13914	-2.42590
11	-0.00550	-0.02544	-0.06095	-0.11052	-0.40212	-0.64629	-0.58505	-0.42986	-0.15849	-2.42420

3012B — sil TESIR SAYILARI

$$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N3012B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

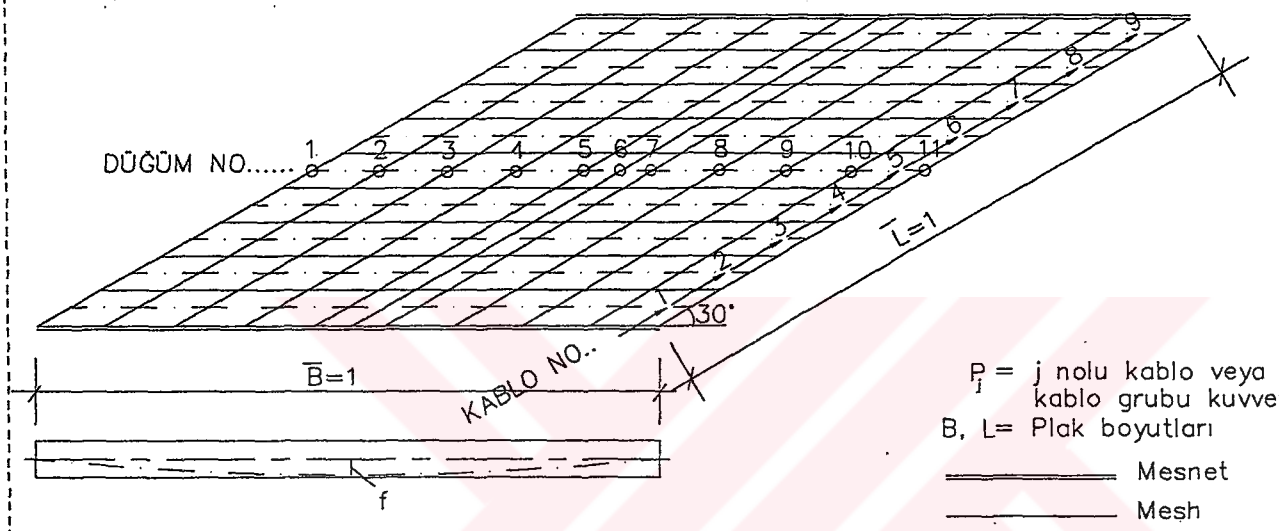
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.60460	-0.17126	-2.76810	-6.15955	-4.60310	-0.68343	-0.27428	-0.03876	-0.02748	-12.12150
2	1.24305	-0.65984	-2.51008	-4.88293	-5.77163	-2.49118	-0.07165	-0.23555	-0.16638	-15.54600
3	0.04535	-1.13267	-2.26053	-3.29288	-5.01813	-4.27535	-1.30319	-0.32162	-0.31902	-17.87825
4	-0.60757	-1.47851	-2.18015	-2.71663	-3.25070	-3.65392	-2.50768	-0.85810	-0.45793	-17.71125
5	-0.56705	-1.58210	-2.27895	-2.64438	-2.85530	-3.03030	-2.71085	-1.56803	-0.75195	-17.98875
6	-0.70167	-1.76158	-2.53113	-2.62808	-2.59385	-2.62808	-2.53113	-1.76158	-0.70167	-17.83900
7	-0.75194	-1.56803	-2.71085	-3.03030	-2.85530	-2.64437	-2.27895	-1.58210	-0.56705	-17.98875
8	-0.45793	-0.85810	-2.50768	-3.65393	-3.25070	-2.71663	-2.18015	-1.47851	-0.60757	-17.71125
9	-0.31902	-0.32162	-1.30319	-4.27535	-5.01812	-3.29288	-2.26053	-1.13267	0.04535	-17.87825
10	-0.16638	-0.23555	-0.07165	-2.49118	-5.77162	-4.88293	-2.51008	-0.65984	1.24305	-15.54600
11	-0.02748	-0.03876	-0.27428	-0.68343	-4.60310	-6.15955	-2.76810	-0.17126	2.60460	-12.12150

3012B — s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}} = 1$	Enine kablo	N3012B

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	3.41240	0.92075	-1.29930	-1.48531	4.32235	3.02670	-1.74378	-0.07630	0.18200	7.25990
2	-0.19870	-0.24900	-0.44796	-0.31893	-0.55975	2.08815	2.45392	-0.25209	-0.47134	2.04423
3	0.23333	0.18702	0.00310	0.21777	-1.35827	-1.17521	1.88171	1.70585	-0.00183	1.69344
4	0.21500	0.40558	0.38398	0.36214	-0.00368	-1.50333	-0.80255	1.25456	0.96609	1.27790
5	1.13661	0.49753	0.59097	0.33623	0.17697	-0.38542	-1.17754	-0.68584	-0.31427	0.17533
6	0.02316	-0.73675	-0.16708	0.88495	1.35400	0.88495	-0.16708	-0.73675	0.02316	1.36255
7	-0.31427	-0.68584	-1.17754	-0.38542	0.17697	0.33623	0.59097	0.49753	1.13661	0.17533
8	0.96609	1.25456	-0.80255	-1.50333	-0.00367	0.36214	0.38398	0.40558	0.21500	1.27790
9	-0.00182	1.70585	1.88171	-1.17521	-1.35827	0.21778	0.00310	0.18702	0.23333	1.69344
10	-0.47134	-0.25209	2.45392	2.08815	-0.55975	-0.31894	-0.44796	-0.24900	-0.19870	2.04423
11	0.18200	-0.07630	-1.74378	3.02670	4.32235	-1.48531	-1.29930	0.92075	3.41240	7.25990

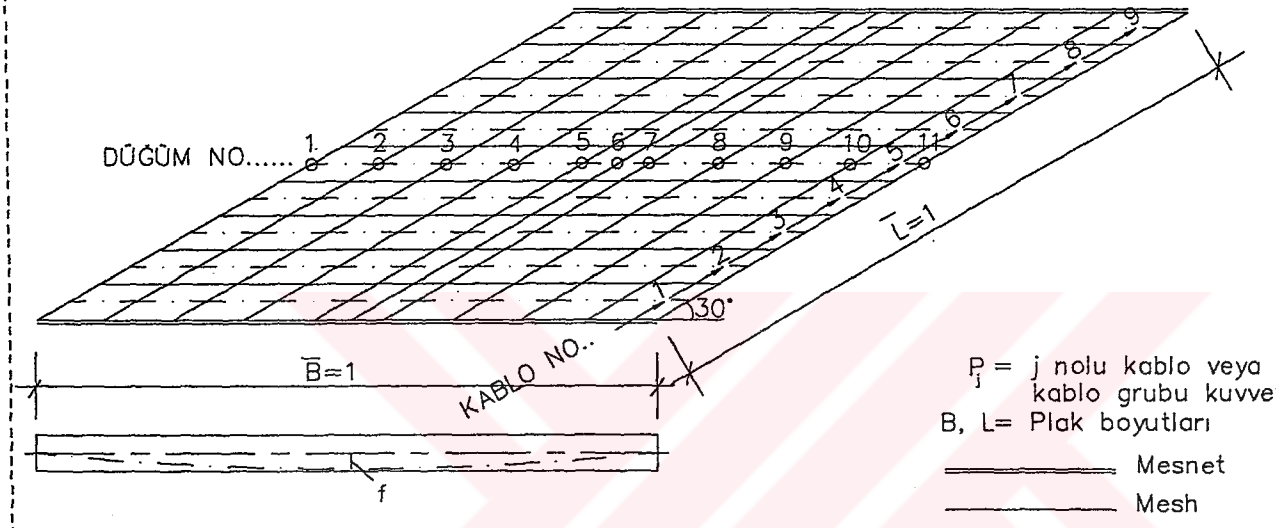
3012B

s12 TESIR SAYILARI

$$S_{12}^{i}=\sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}}=1$	Enine kablo	N3012B

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

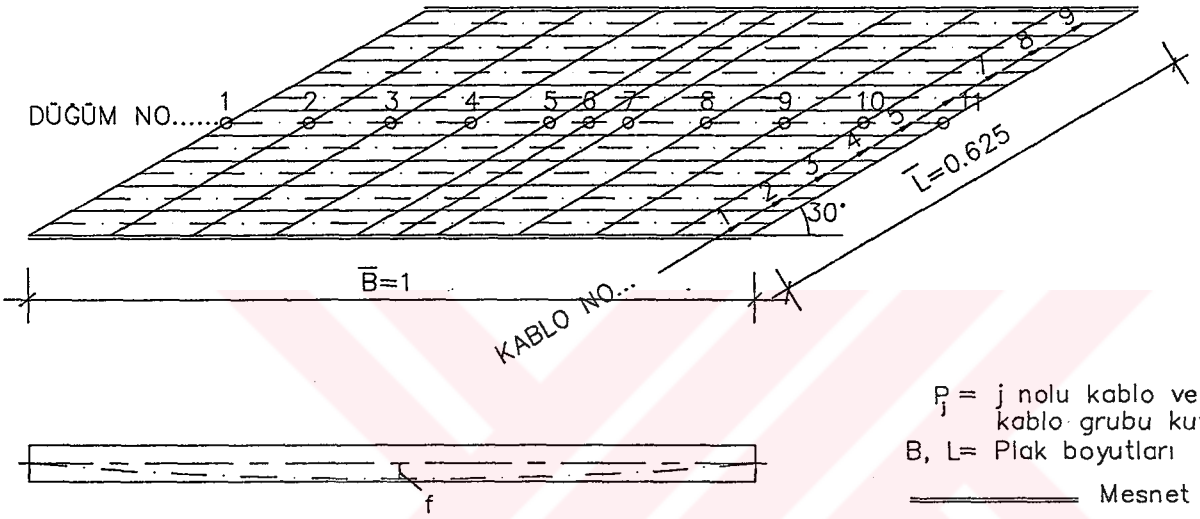
DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.02268	0.18879	-1.48866	-6.90010	-3.05790	3.00725	0.33905	0.03143	-0.03771	-5.89555
2	0.83694	0.20795	-0.51181	-0.70414	-0.87257	-0.93065	-0.07197	0.30589	0.21679	-1.52356
3	-0.14635	-0.06656	-0.01965	-0.11706	0.59552	0.64754	-0.78988	-0.73214	0.13203	-0.49659
4	-0.56727	-0.24163	-0.00067	0.12384	0.32672	0.85926	0.60951	-0.65612	-0.84985	-0.39623
5	-1.01544	-0.24697	0.03506	0.22752	0.32370	0.55049	0.70264	0.17901	-0.79863	-0.04263
6	-0.84719	0.19498	0.36638	0.13112	0.02533	0.13112	0.36639	0.19498	-0.84719	-0.28407
7	-0.79863	0.17901	0.70264	0.55049	0.32370	0.22752	0.03506	-0.24697	-1.01544	-0.04263
8	-0.84985	-0.65612	0.60951	0.85926	0.32672	0.12384	-0.00067	-0.24163	-0.56727	-0.39622
9	0.13203	-0.73214	-0.78988	0.64754	0.59552	-0.11706	-0.01965	-0.06656	-0.14635	-0.49659
10	0.21679	0.30589	-0.07197	-0.93065	-0.87257	-0.70414	-0.51181	0.20795	0.83694	-1.52356
11	-0.03771	0.03143	0.33905	3.00725	-3.05790	-6.90010	-1.48866	0.18879	2.02268	-5.89555

3013B — m11 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N3013B

$$M_{11} = \sum_{j=1}^{n} m_{11}^{ij} P_j f_j / B$$

m_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	0.00019	-0.01364	-0.08166	-0.09686	-0.22338	-0.25766	-0.08082	-0.01886	-0.00136	-0.77405
2	0.02242	0.04362	0.02442	-0.03605	-0.10548	-0.12064	-0.07966	-0.02920	-0.00398	-0.28456
3	0.04198	0.10199	0.11815	0.09589	0.05009	0.00724	-0.01678	-0.01742	-0.00574	0.37540
4	0.01790	0.04779	0.05575	0.02636	-0.00297	-0.01308	-0.02341	-0.02456	-0.01077	0.07300
5	-0.01097	-0.03469	-0.04725	-0.05526	-0.07028	-0.04351	-0.01554	-0.01655	-0.00599	-0.30005
6	-0.00869	-0.02359	-0.05536	-0.05258	-0.02412	-0.05256	-0.05548	-0.02362	-0.00870	-0.30470
7	-0.00599	-0.01654	-0.01552	-0.04336	-0.07017	-0.05527	-0.04721	-0.03470	-0.01098	-0.29974
8	-0.01076	-0.02455	-0.02339	-0.01304	-0.00296	0.02632	0.05575	0.04781	0.01791	0.07308
9	-0.00574	-0.01744	-0.01687	0.00709	0.04986	0.09562	0.11792	0.10184	0.04193	0.37419
10	-0.00397	-0.02917	-0.07964	-0.12071	-0.10569	-0.03630	0.02423	0.04349	0.02238	-0.28539
11	-0.00135	-0.01880	-0.08058	-0.25726	-0.22335	-0.09729	-0.08211	-0.01394	0.00008	-0.77459

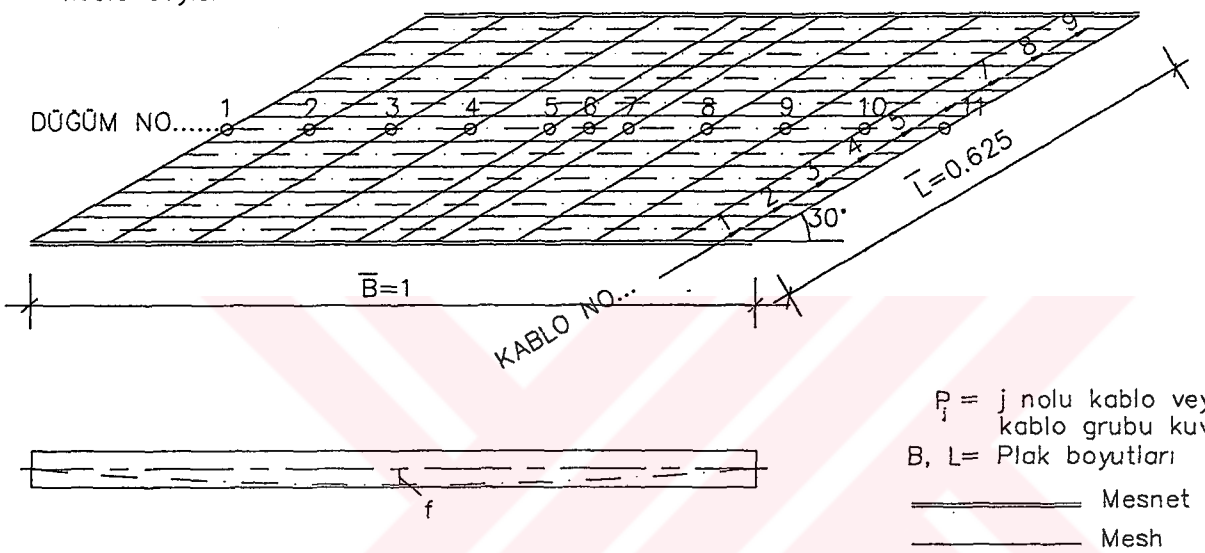
3013B

m22 TESIR SAYILARI

$M_{22}^{i} = \sum_{j=1}^{n} m_{22}^{ij} P_j f_j / B$

m_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

$\frac{B}{L} = 1.6$	Enine kablo	N3013B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

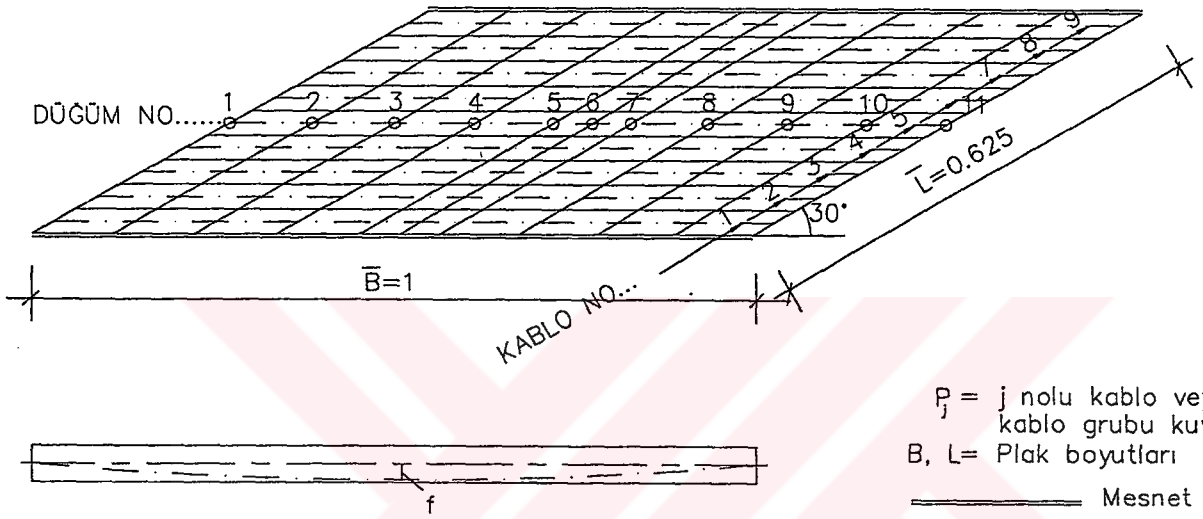
DÜĞÜM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.12814	-0.32484	-0.42190	-0.38695	-0.23237	-0.06517	0.00676	0.00008	-0.00121	-1.55370
2	-0.12078	-0.33468	-0.49005	-0.59571	-0.58592	-0.41128	-0.20817	-0.08494	-0.02168	-2.85323
3	-0.10496	-0.29987	-0.46702	-0.60332	-0.64307	-0.52388	-0.32727	-0.15823	-0.04299	-3.17060
4	-0.08140	-0.24070	-0.38727	-0.52943	-0.59484	-0.50450	-0.34152	-0.18689	-0.05649	-2.92303
5	-0.06837	-0.21007	-0.35881	-0.49125	-0.54419	-0.47504	-0.33885	-0.19713	-0.06327	-2.74698
6	-0.06834	-0.20644	-0.34830	-0.50892	-0.59767	-0.50932	-0.34859	-0.20660	-0.06840	-2.86260
7	-0.06321	-0.19695	-0.33858	-0.47462	-0.54412	-0.49161	-0.35912	-0.21027	-0.06844	-2.74693
8	-0.05643	-0.18674	-0.34129	-0.50420	-0.59497	-0.52993	-0.38762	-0.24093	-0.08148	-2.92358
9	-0.04294	-0.15807	-0.32699	-0.52353	-0.64315	-0.60384	-0.46743	-0.30013	-0.10505	-3.17115
10	-0.02166	-0.08480	-0.20780	-0.41067	-0.58567	-0.59585	-0.49014	-0.33474	-0.12080	-2.85213
11	-0.00122	0.00004	0.00671	-0.06489	-0.23217	-0.38723	-0.42229	-0.32514	-0.12826	-1.55445

3013B — m12 TESIR SAYILARI

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N3013B

$$M_{12}^{i} = \sum_{j=1}^{n} m_{12}^{ij} P_j f_j / B$$

m_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L = Plak boyutları

Mesnet
Mesh
Kablo

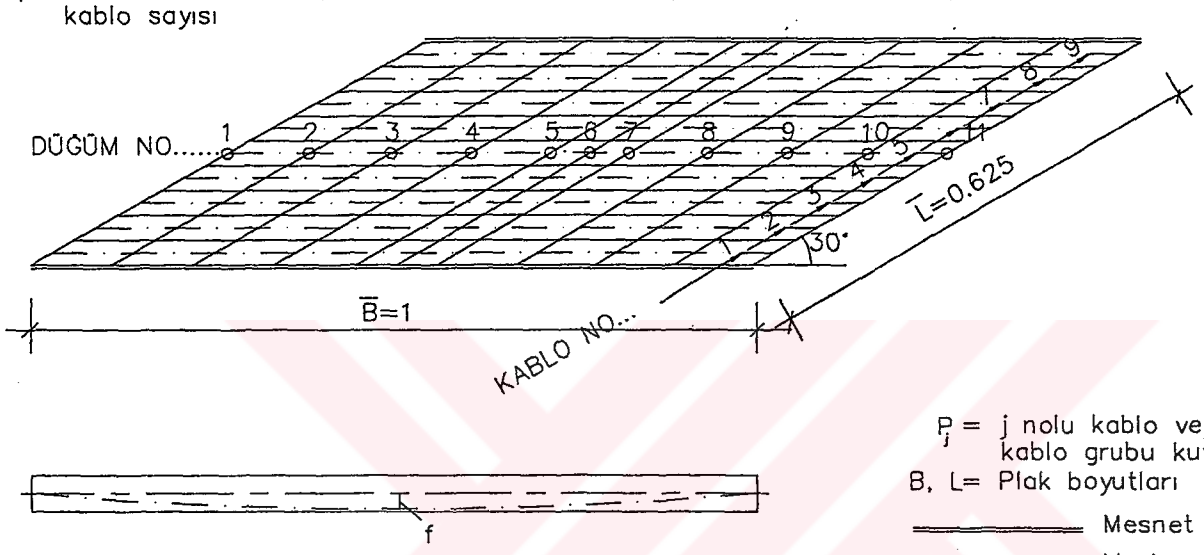
DUGUM NO	KABLO NO									
	1	2	3	4	5	6	7	8	9	TOPLAM
1	-0.10169	-0.28101	-0.37722	-0.43745	-0.27711	-0.04399	-0.01622	-0.01340	-0.00361	-1.55170
2	-0.08055	-0.21808	-0.29590	-0.34493	-0.32779	-0.19384	-0.07343	-0.02421	-0.00338	-1.56210
3	-0.04224	-0.11486	-0.15599	-0.20148	-0.22751	-0.15984	-0.07517	-0.02679	-0.00205	-1.00595
4	-0.00861	-0.02466	-0.02261	-0.04380	-0.07996	-0.04838	-0.01253	-0.00488	0.00198	-0.24345
5	0.00602	0.01200	0.01097	0.00730	-0.00008	-0.00922	-0.01288	-0.00735	-0.00130	0.00546
6	0.00143	0.00326	0.01199	-0.02716	-0.07480	-0.02732	0.01198	0.00324	0.00142	-0.09597
7	-0.00129	-0.00728	-0.01284	-0.00909	-0.00014	0.00705	0.01083	0.01188	0.00599	0.00511
8	0.00199	-0.00483	-0.01254	-0.04819	-0.08010	-0.04424	-0.02278	-0.02483	-0.00867	-0.24420
9	-0.00204	-0.02670	-0.07510	-0.15954	-0.22757	-0.20189	-0.15616	-0.11502	-0.04229	-1.00629
10	-0.00337	-0.02411	-0.07324	-0.19323	-0.32746	-0.34500	-0.29581	-0.21810	-0.08055	-1.56085
11	-0.00360	-0.01338	-0.01630	-0.04371	-0.27689	-0.43750	-0.37715	-0.28106	-0.10170	-1.55130

3013B — s11 TESIR SAYILARI

$S_{11}^{i} = \sum_{j=1}^{n} s_{11}^{ij} P_j \frac{\bar{L}}{L}$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N3013B

s_{11}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	3.27650	-0.57144	-4.49720	-9.24585	-8.22645	-2.92040	-1.24049	-0.79284	-0.58281	-24.80100
2	1.03770	-1.32720	-3.79103	-6.72298	-7.74663	-4.96413	-1.96828	-0.92847	-0.85568	-27.26675
3	-1.12142	-2.15335	-3.07998	-3.93995	-5.60383	-5.25898	-3.40188	-2.39080	-1.57005	-28.52025
4	-2.12750	-2.66630	-2.93045	-3.20703	-3.92010	-4.23123	-3.52538	-2.94380	-2.55215	-28.10400
5	-2.51700	-2.95025	-3.09090	-3.09460	-3.30488	-3.68930	-3.47133	-3.14715	-2.98433	-28.24975
6	-2.85100	-3.06935	-3.30545	-3.29840	-3.14863	-3.30160	-3.30853	-3.07170	-2.86032	-28.21500
7	-2.97123	-3.14548	-3.47435	-3.68895	-3.30295	-3.09598	-3.09490	-2.95393	-2.52100	-28.24875
8	-2.54068	-2.93785	-3.52992	-4.23898	-3.92103	-3.20695	-2.93175	-2.66700	-2.12430	-28.09800
9	-1.56463	-2.38510	-3.39790	-5.26550	-5.60958	-3.93932	-3.07930	-2.15035	-1.11193	-28.50350
10	-0.85604	-0.92877	-1.96124	-4.95153	-7.74833	-6.73270	-3.79215	-1.32183	1.05381	-27.23875
11	-0.58606	-0.79532	-1.23730	-2.89415	-8.22155	-9.26780	-4.50125	-0.56518	3.29740	-24.77100

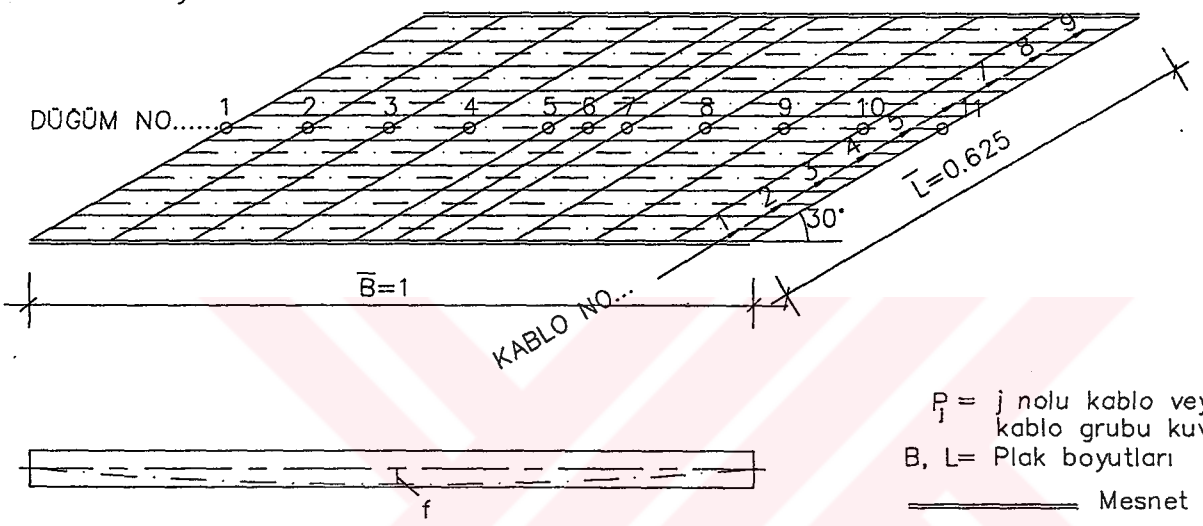
3013B

s22 TESIR SAYILARI

$$S_{22}^{i} = \sum_{j=1}^{n} s_{22}^{ij} P_j \frac{\bar{L}}{\bar{L}}$$

$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N3013B

s_{22}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

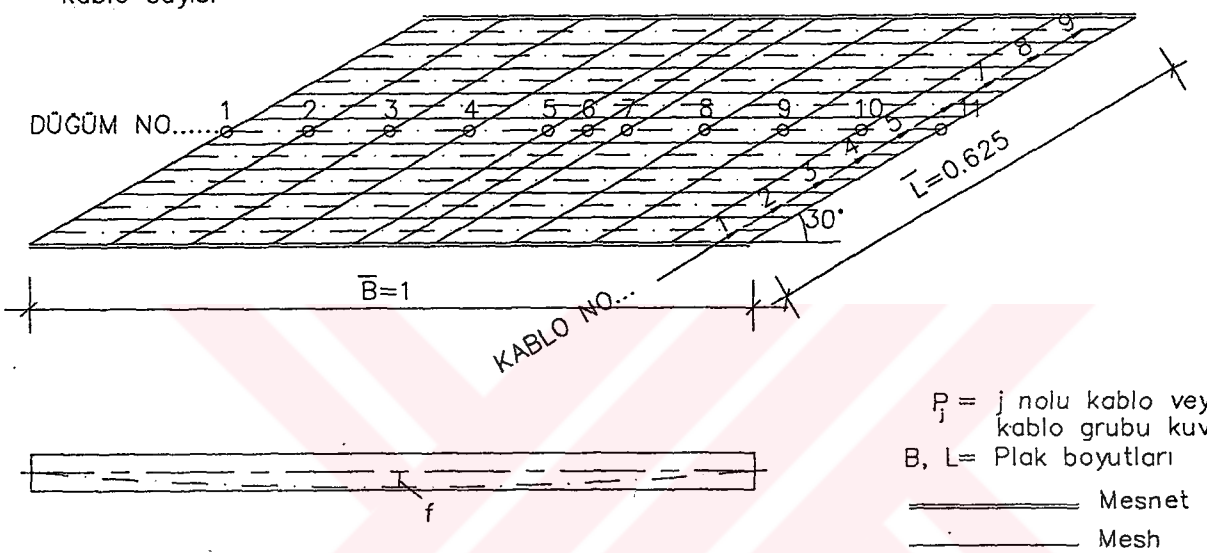
DUGUM NO	KABLO NO									TOPLAM
	1	2	3	4	5	6	7	8	9	
1	6.28730	2.13685	-1.17835	-2.65264	6.05460	5.72520	-3.59645	-3.17685	-2.67027	6.92945
2	2.02275	1.12588	0.45315	0.00760	1.36995	0.92512	-0.83912	-1.00378	-2.25946	1.80193
3	2.83120	1.67681	1.33477	1.08398	-1.82993	1.22820	1.55653	-2.94164	-2.32700	2.61308
4	3.20800	1.41866	1.43461	1.30999	-1.68565	-1.28722	2.69846	0.15887	-3.42395	3.83187
5	3.65120	0.67783	0.35053	0.83140	-0.05282	-2.12618	-0.25856	1.50662	-1.18668	3.39338
6	2.19622	1.02408	-0.80444	-0.55484	0.28907	-0.56408	-0.80657	1.02938	2.17366	3.98245
7	-1.14335	1.49473	-0.28886	-2.13265	-0.04273	0.83068	0.34312	0.67920	3.65822	3.39835
8	-3.38244	0.16202	2.65146	-1.33654	-1.68785	1.32012	1.44330	1.43827	3.25685	3.86543
9	-2.30813	-2.93201	1.54075	1.16970	-1.85973	1.09733	1.35757	1.72057	2.92053	2.70650
10	-2.26583	-1.01225	-0.82344	0.92344	1.34430	0.00720	0.48083	1.18683	2.14315	1.98440
11	-2.68900	-3.19235	-3.58155	5.76610	6.05045	-2.67672	-1.15460	2.20440	6.42550	7.15240

3013B — s12 TESIR SAYILARI

$S_{12}^{i} = \sum_{j=1}^{n} s_{12}^{ij} P_j \frac{\bar{L}}{L}$

s_{12}^{ij} = Tesir ordinatı
i = Düğüm no
j = Kablo veya kablo grubu no
n = Dikkate alınan kablo sayısı

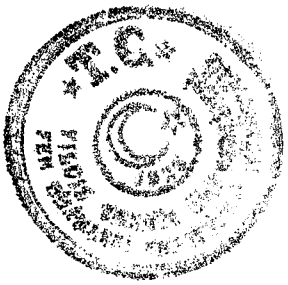
$\frac{\bar{B}}{\bar{L}} = 1.6$	Enine kablo	N3013B



P_j = j nolu kablo veya kablo grubu kuvveti
B, L= Plak boyutları

Mesnet
Mesh
Kablo

DUGUM NO	KABLO NO 1	2	3	4	5	6	7	8	9	TOPLAM
1	2.65225	-0.02900	-3.23790	-9.44105	-3.58838	4.60600	1.95660	1.23914	0.99903	-4.84360
2	-0.40105	-0.34199	-0.35908	-0.06687	-0.90885	-1.10637	0.19475	0.65460	1.04327	-1.29165
3	-1.55383	-0.84756	-0.39785	-0.12642	0.80422	0.57974	0.03799	0.19404	0.14573	-1.16398
4	-1.56223	-0.75666	-0.54664	-0.32355	0.74372	0.92104	-0.13910	0.16753	0.27646	-1.21944
5	-1.38637	-0.38626	-0.22758	-0.29690	0.07522	0.74550	0.48721	-0.19932	0.15526	-1.03324
6	-0.73583	-0.18336	0.27952	0.14004	-0.17934	0.14003	0.27834	-0.18318	-0.73035	-1.17415
7	0.14777	-0.19871	0.49065	0.74899	0.07525	-0.29680	-0.22658	-0.38710	-1.38706	-1.03361
8	0.26751	0.16643	-0.13337	0.93051	0.74810	-0.32509	-0.54793	-0.76032	-1.57071	-1.22480
9	0.14135	0.19099	0.03941	0.58673	0.80724	-0.12745	-0.40082	-0.85496	-1.56927	-1.18673
10	1.04237	0.65436	0.19091	-1.10798	-0.90186	-0.06143	-0.36189	-0.35221	-0.42267	-1.32043
11	0.99997	1.23969	1.95140	4.58460	-3.60793	-9.44720	-3.24615	-0.04230	2.62947	-4.93825



5.4 DÜZGÜN YAYILI DÜŞEY YÜK İÇİN TESİR SAYILARI

DÜZGÜN YAYILI DÜŞEY YÜK İÇİN TESİR SAYILARI p (kN/m^2) Tablo 5.4.1

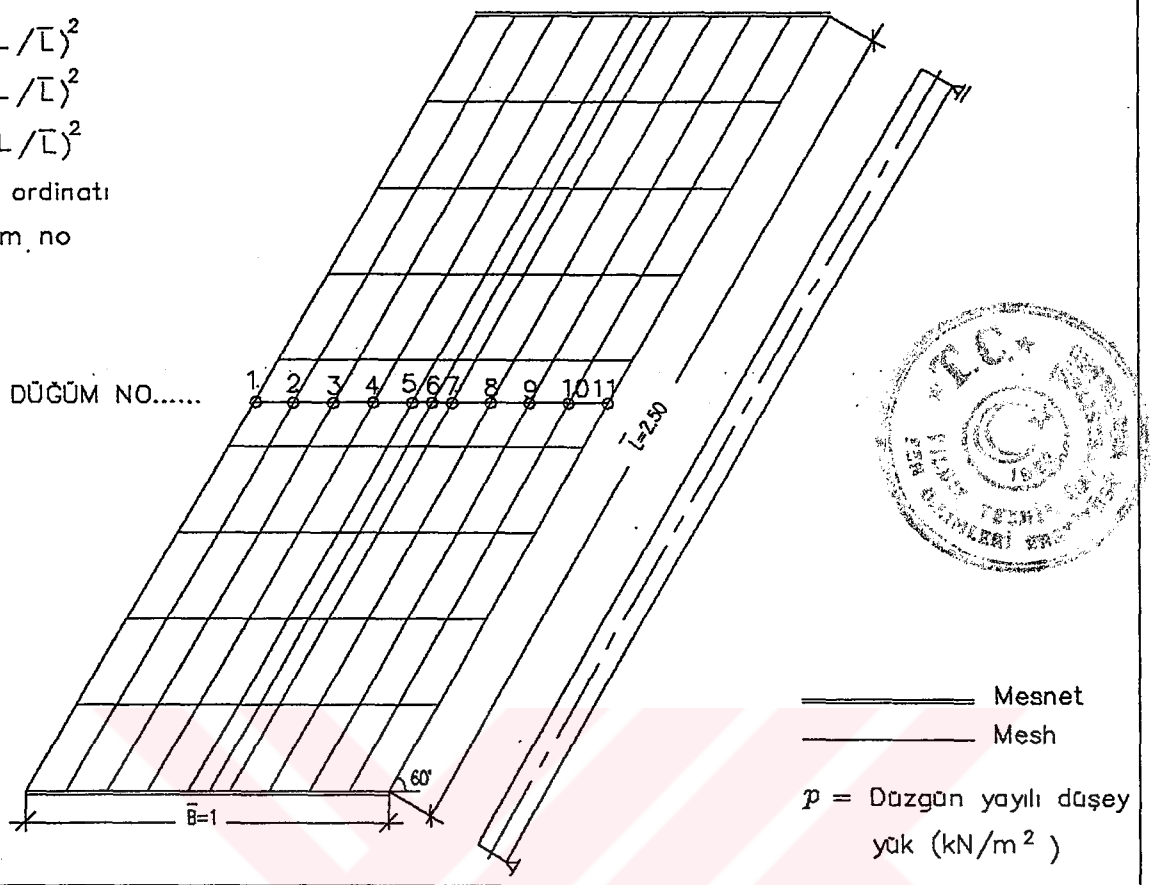
$M_{11}^i = m_{11}^i p\,(L/\overline{L})^2$

$M_{22}^i = m_{22}^i p\,(L/\overline{L})^2$

$M_{12}^i = m_{12}^i p\,(L/\overline{L})^2$

m = Tesir ordinatı

i = Düğüm no



DÜĞÜM NO	$\overline{B}/\overline{L}=0.40$ $\varphi=60°$			$\overline{B}/\overline{L}=0.40$ $\varphi=45°$			$\overline{B}/\overline{L}=0.40$ $\varphi=30°$		
	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$
1	−11.7025	563.510	148.305	0.5063	343.510	169.725	10.0236	134.625	142.910
2	−3.3180	576.115	141.958	−2.9057	372.035	171.830	14.2752	179.248	149.673
3	−6.1788	586.655	134.505	−4.1439	392.653	172.563	21.8822	199.468	162.895
4	−4.9606	594.463	129.768	−5.7681	407.110	174.420	27.6853	211.900	173.040
5	−4.5232	598.415	127.653	−7.0232	414.353	175.975	30.5905	216.960	178.893
6	−4.2667	599.150	127.065	−6.5804	414.835	176.015	31.6185	215.230	178.995
7	−4.6378	598.530	127.380	−7.0232	414.353	175.975	30.5910	216.960	178.895
8	−4.9604	594.463	129.790	−5.7681	407.110	174.420	27.6853	211.900	173.040
9	−6.1788	586.655	134.505	−4.1439	392.653	172.563	21.8820	199.468	162.895
10	−8.7205	576.115	141.958	−2.9057	372.035	171.830	14.2752	179.248	149.673
11	−11.7025	563.510	148.170	0.5063	343.510	169.725	10.0236	166.370	140.845

DÜZGÜN YAYILI DÜŞEY YÜK İÇİN TESİR SAYILARI p (kN/m^2) Tablo 5.4.2

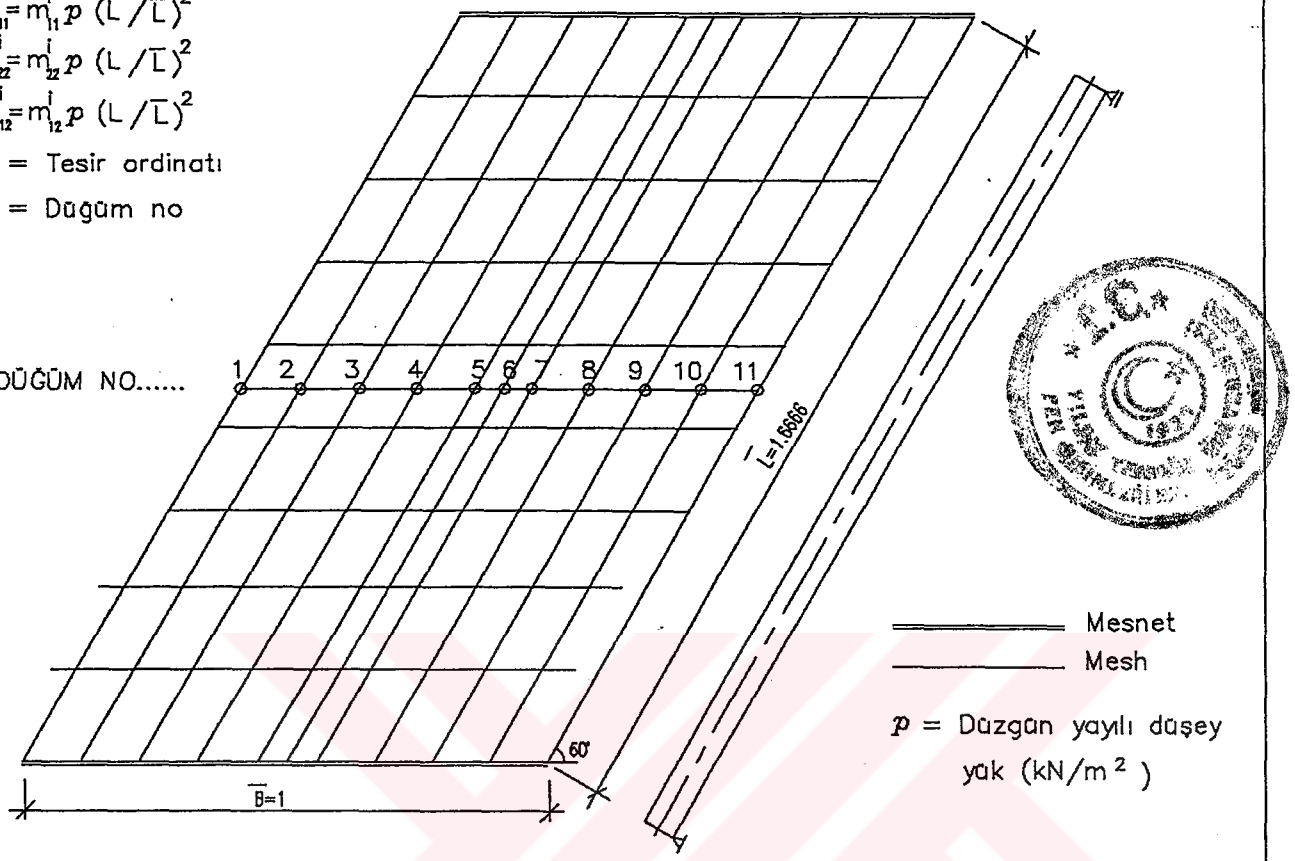
$M_{11}^i = m_{11}^i p\,(L/\bar{L})^2$

$M_{22}^i = m_{22}^i p\,(L/\bar{L})^2$

$M_{12}^i = m_{12}^i p\,(L/\bar{L})^2$

m = Tesir ordinatı

i = Düğüm no



DÜĞÜM NO	B̄/L̄ =0.60		φ=60°	B̄/L̄ =0.60		φ=45°	B̄/L̄ =0.60		φ=30°
	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$
1	−4.4139	245.16	63.195	3.0279	138.75	68.084	6.975	45.755	45.6785
2	−0.3296	252.97	55.5265	−0.0901	157.4	63.9622	1.4168	68.7845	48.6828
3	2.1803	260.865	47.1521	−4.1445	174.1075	59.514	−3.8186	85.9088	52.8255
4	2.8325	266.545	41.3705	−9.7165	186.8825	57.0373	−9.8633	101.233	59.2945
5	3.0639	269.285	38.2338	−13.0853	193.615	55.4833	13.5108	110.01	63.7245
6	3.2640	269.885	37.626	−13.1595	194.6475	55.047	13.478	109.722	64.0525
7	3.0650	269.28	38.2335	−13.0233	193.6175	55.4533	13.5125	110.008	63.719
8	2.8373	266.535	41.3693	−9.5963	186.8825	56.979	−9.8653	101.221	59.278
9	2.1861	260.883	47.1525	−4.0639	174.105	59.4775	−3.8192	85.897	52.8038
10	−0.3096	252.945	55.519	−0.0628	157.41	63.9695	1.4137	68.7728	48.6633
11	−4.4248	245.03	63.114	3.0381	138.745	68.107	6.9802	45.7835	45.6785

DÜZGÜN YAYILI DÜŞEY YÜK İÇİN TESİR SAYILARI p (kN/m^2) Tablo 5.4.3.

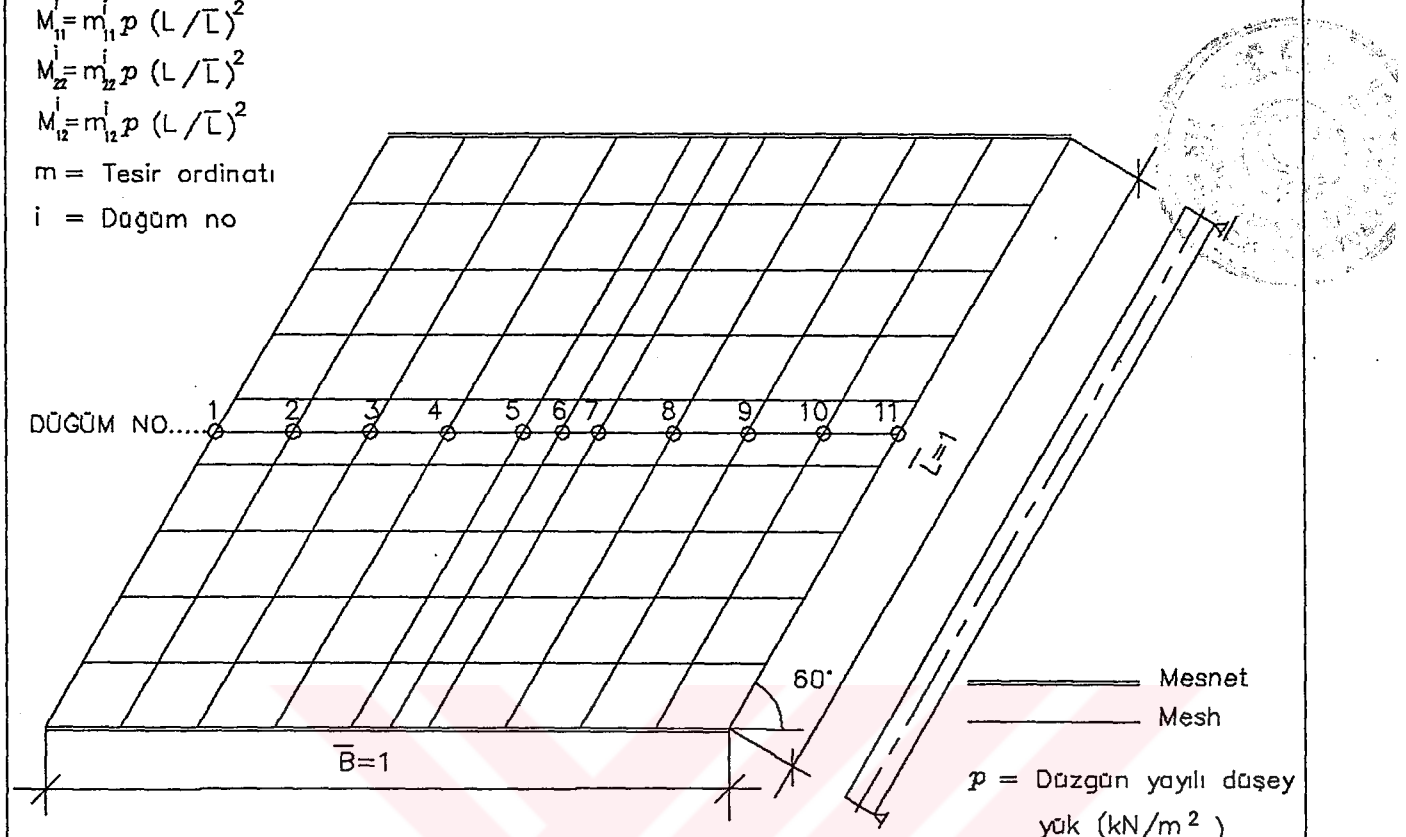
$M_{11}^i = m_{11}^i p\,(L/\overline{L})^2$

$M_{22}^i = m_{22}^i p\,(L/\overline{L})^2$

$M_{12}^i = m_{12}^i p\,(L/\overline{L})^2$

m = Tesir ordinatı

i = Düğüm no



DÜĞÜM NO	$\overline{B}/\overline{L}=1$		$\varphi=60°$	$\overline{B}/\overline{L}=1$		$\varphi=45°$	$\overline{B}/\overline{L}=1$		$\varphi=30°$
	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$
1	−0.7692	88.1145	22.5050	4.0872	48.8040	24.7225	8.2117	15.8075	17.0760
2	2.6561	91.4840	16.8870	2.6188	57.4420	20.5105	5.2242	26.0798	17.2820
3	4.7606	94.6168	11.0354	0.2238	64.3705	15.1940	0.0692	33.3255	16.1940
4	6.2544	95.7700	6.7308	−1.1945	67.4030	9.8329	−5.5789	36.7180	11.9855
5	7.3534	95.7370	4.8332	−0.9718	68.1048	6.3049	−7.7416	37.1243	7.1415
6	7.5993	96.1200	4.4633	−0.7836	68.7320	5.6225	−7.8632	38.4840	6.2439
7	7.3534	95.9370	4.8332	−0.9654	68.0980	6.3372	−7.7416	37.1243	7.1415
8	6.2544	95.7700	6.9308	−1.1893	67.4000	9.8336	−5.5793	36.7180	11.9855
9	4.7606	94.6168	11.0354	0.2317	64.3643	15.1920	0.0692	33.3255	16.1940
10	2.6561	91.4840	16.8870	2.6278	57.4338	20.5048	5.2242	26.0798	17.2820
11	−0.7692	88.1145	22.5050	4.0887	48.7920	24.7165	8.2117	15.8075	17.0760

DÜZGÜN YAYILI DÜŞEY YÜK İÇİN TESİR SAYILARI p (kN/m^2) Tablo 5.4.4

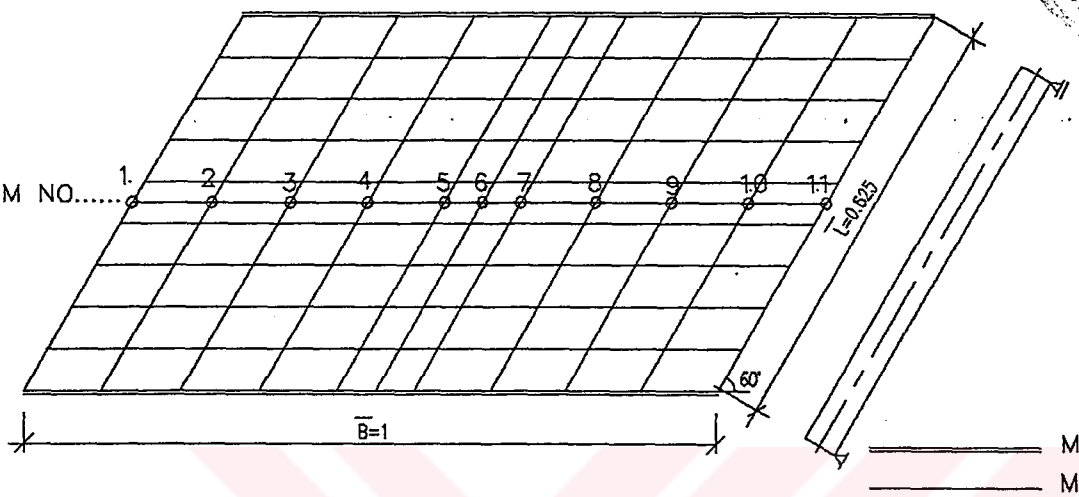
$M_{11}^i = m_{11}^i p\,(L/\bar{L})^2$

$M_{22}^i = m_{22}^i p\,(L/\bar{L})^2$

$M_{12}^i = m_{12}^i p\,(L/\bar{L})^2$

m = Tesir ordinatı

i = Düğüm no



Mesnet

Mesh

p = Düzgün yayılı düşey yük (kN/m^2)

DÜĞÜM NO	$\bar{B}/\bar{L}=1.60$		$\varphi=60°$	$\bar{B}/\bar{L}=1.60$		$\varphi=45°$	$\bar{B}/\bar{L}=1.60$		$\varphi=30°$
	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$	$10^3 m_{11}$	$10^3 m_{22}$	$10^3 m_{12}$
1	0.3084	35.1515	8.6708	1.6296	20.005	9.8141	3.4235	6.8974	6.9172
2	1.8813	36.4975	5.3546	0.8377	24.213	7.0847	1.2703	12.5835	6.9753
3	3.3949	37.1723	2.4065	0.5900	25.763	3.5221	−1.6134	13.9625	4.5651
4	4.5665	36.9325	0.9517	1.9411	25.267	1.1958	−0.3180	12.8553	1.2525
5	5.1921	36.7275	0.4878	2.9298	24.828	0.4766	1.3303	12.2970	0.2618
6	5.3754	36.7210	0.4191	3.1968	24.854	0.3399	1.5611	12.5445	0.1615
7	5.1908	36.7283	0.4739	2.9283	24.828	0.4778	1.3290	12.2973	0.2636
8	4.5660	36.9333	0.9527	1.9411	25.267	1.1976	−0.3182	12.8578	1.2556
9	3.3929	37.1718	2.4089	0.5928	25.762	3.5240	−1.6079	13.9648	4.5666
10	1.8848	36.5073	5.3582	0.8435	24.209	7.0827	1.2741	12.5788	6.9694
11	0.3206	35.0890	8.6622	1.6318	19.996	9.8098	3.4267	6.8998	6.9139

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