TASARIM AŞAMALARI

1. 1/500 ölçekli **fikir projesi**
2. 1/200 ölçekli **avan proje**
3. 1/100 ölçekli **kesin proje**
4. 1/50, 1/20 ölçekli **uygulama projesi**

TASARIM AŞAMALARI

1. 1/500 ölçekli fikir projesi

Taşıyıcı sistem malzemesi, yükler, taşıyıcı sistem tipleri, derzler, rapor

2. 1/200 ölçekli avan proje

Taşıyıcı sistem tipi, malzemesi, eksenler, derz yerleri, döşeme türleri, tesisat ilişkileri, temel sistemi, bazı eleman boyutları

TASARIM AŞAMALARI

3. 1/100 ölçekli kesin proje

Taşıyıcı sistem tipi kesinleşmiş, taşıyıcı sistem eleman boyutları belirli, kalıp planları, hesap.

4. 1/50, 1/20 ölçekli uygulama projesi

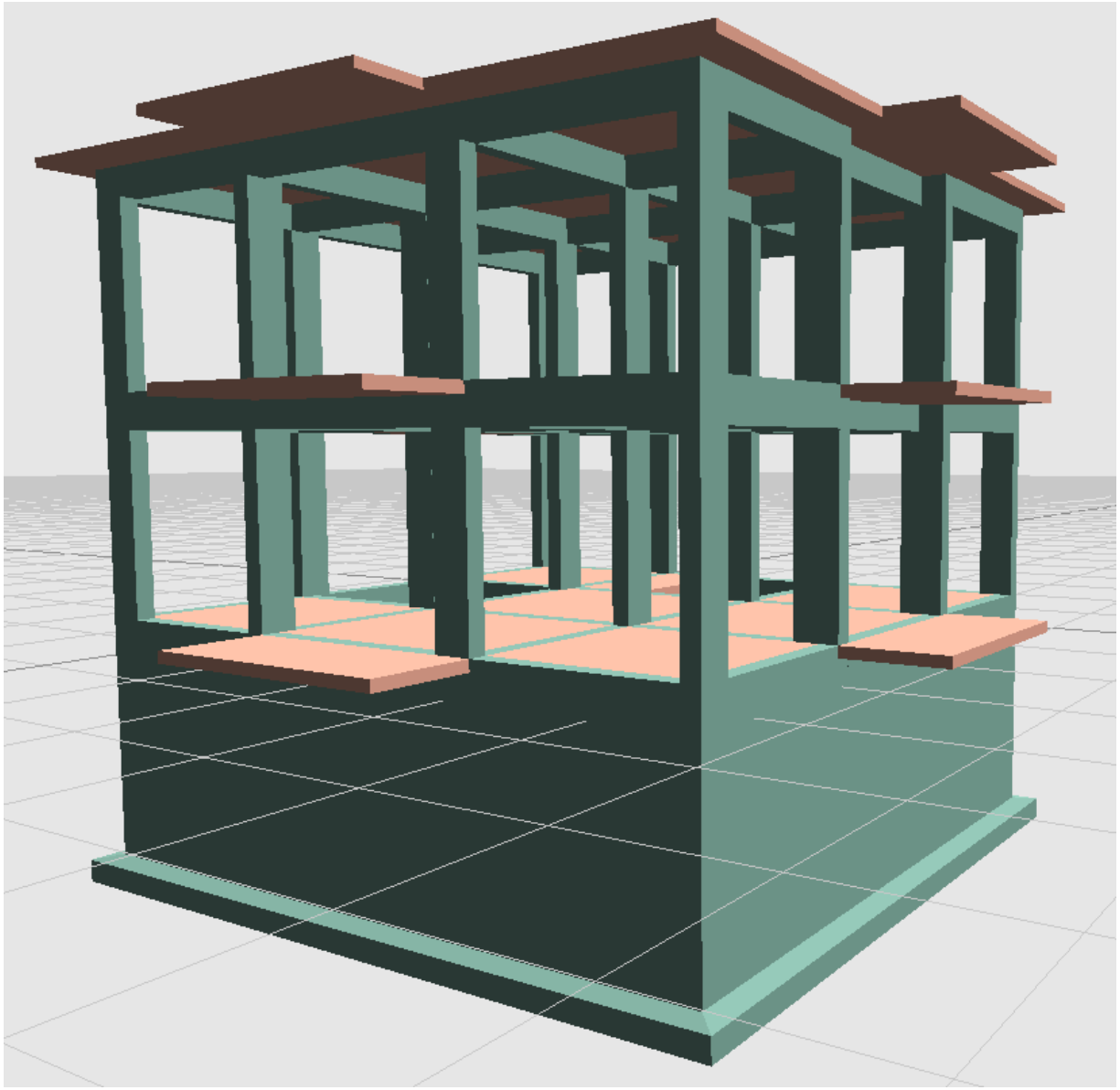
İdealizasyon → Statik ve betonarme hesapları → Betonarme çizimleri

- **Deprem bölgesi**
- **Zemin durumu**
- Minimum boyutlar (plak kalınlığı, kiriş, kolon, perde boyutları, açıklıklar)
- Minimum ve maksimum donatı oranları
- Sehim kontrolu
- Çatlak kontrolu
- Yerdeğiştirme kontrolu
- Kenetlenme
- Pas payı
- Donatı aralıkları
- Donatı ekleri
- Derz detayları

TASARIM AŞAMALARI

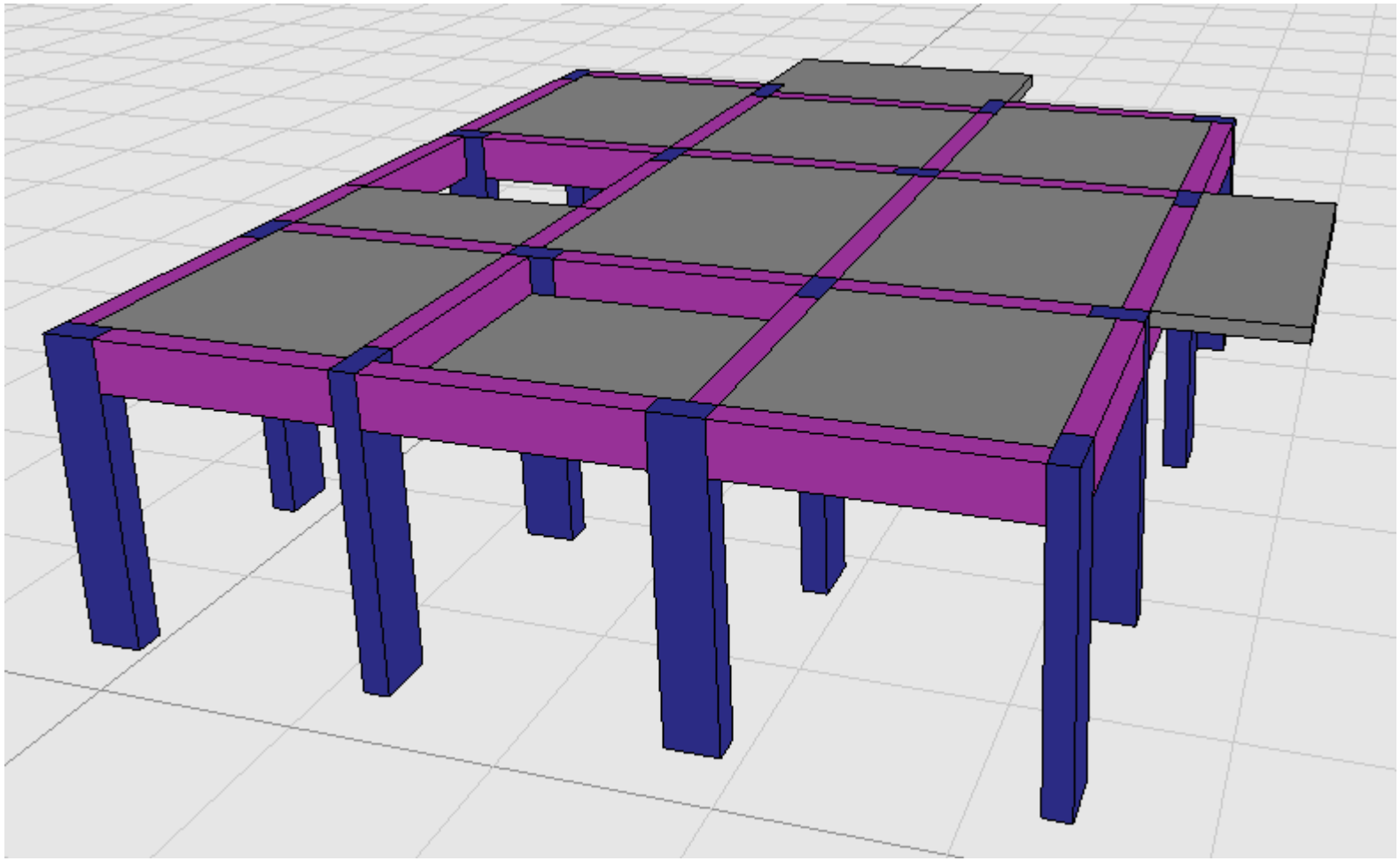
4. 1/50, 1/20 ölçekli uygulama projesi

- Kat kalıp planları 1/50 ölçekli
- Kolon aplikasyon planları 1/50 (Detay 1/20)
- Temel kalıp planları 1/50 ölçekli
- Kiriş detayları 1/20 ölçekli
- Temel detayları 1/20 ölçekli

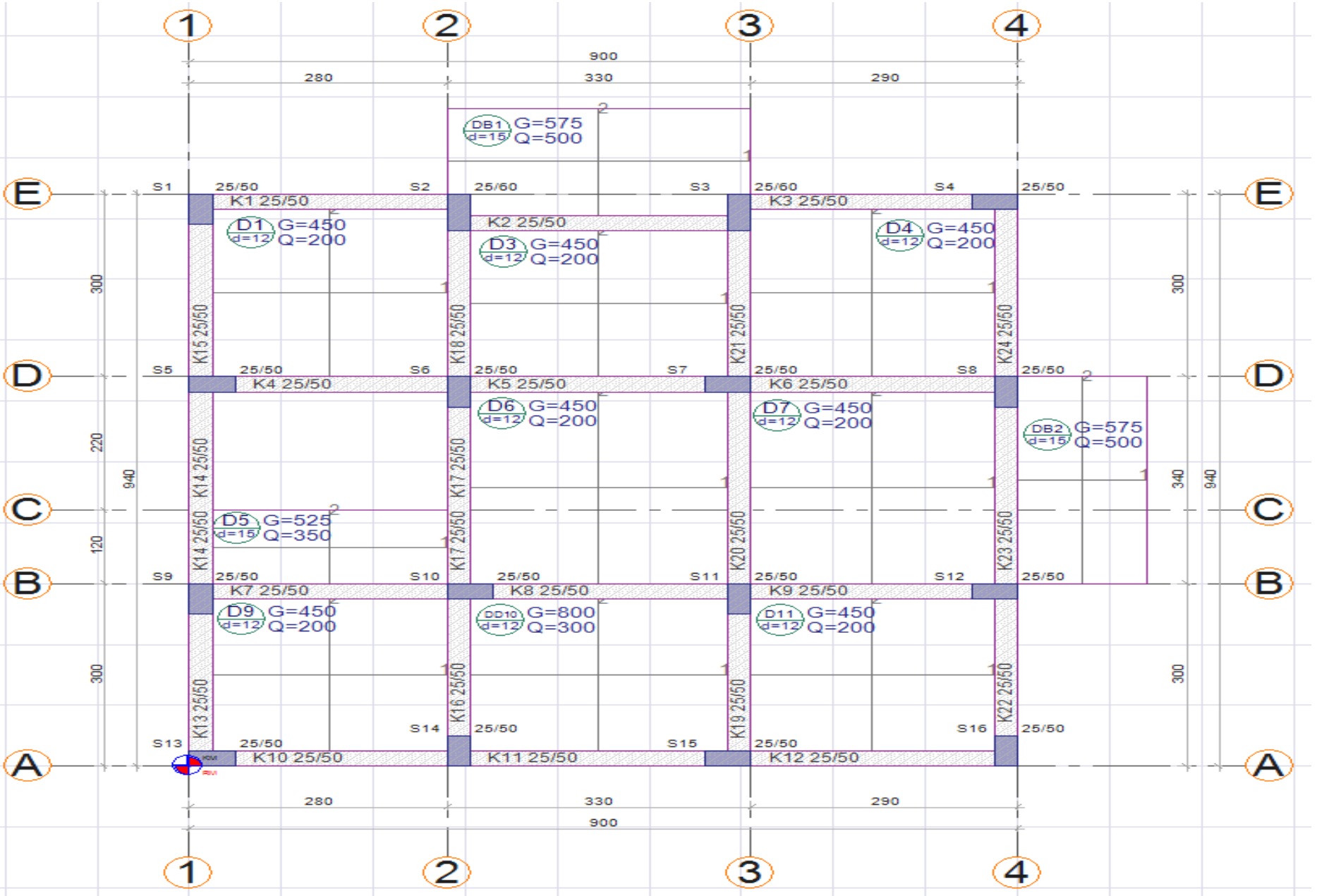


Projenin Perspektifi

Projenin Zemin Kat Tavanı



Projenin Zemin Kat Planı

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31 8:48 AM


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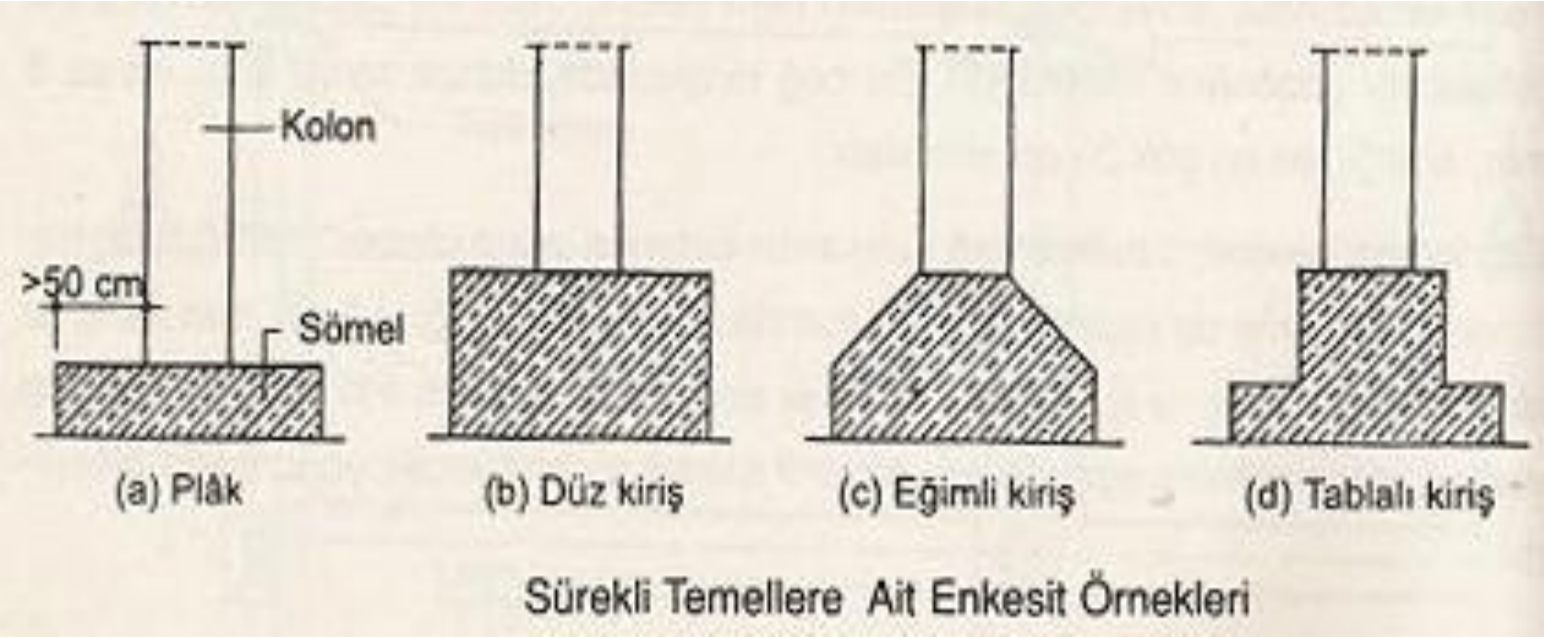
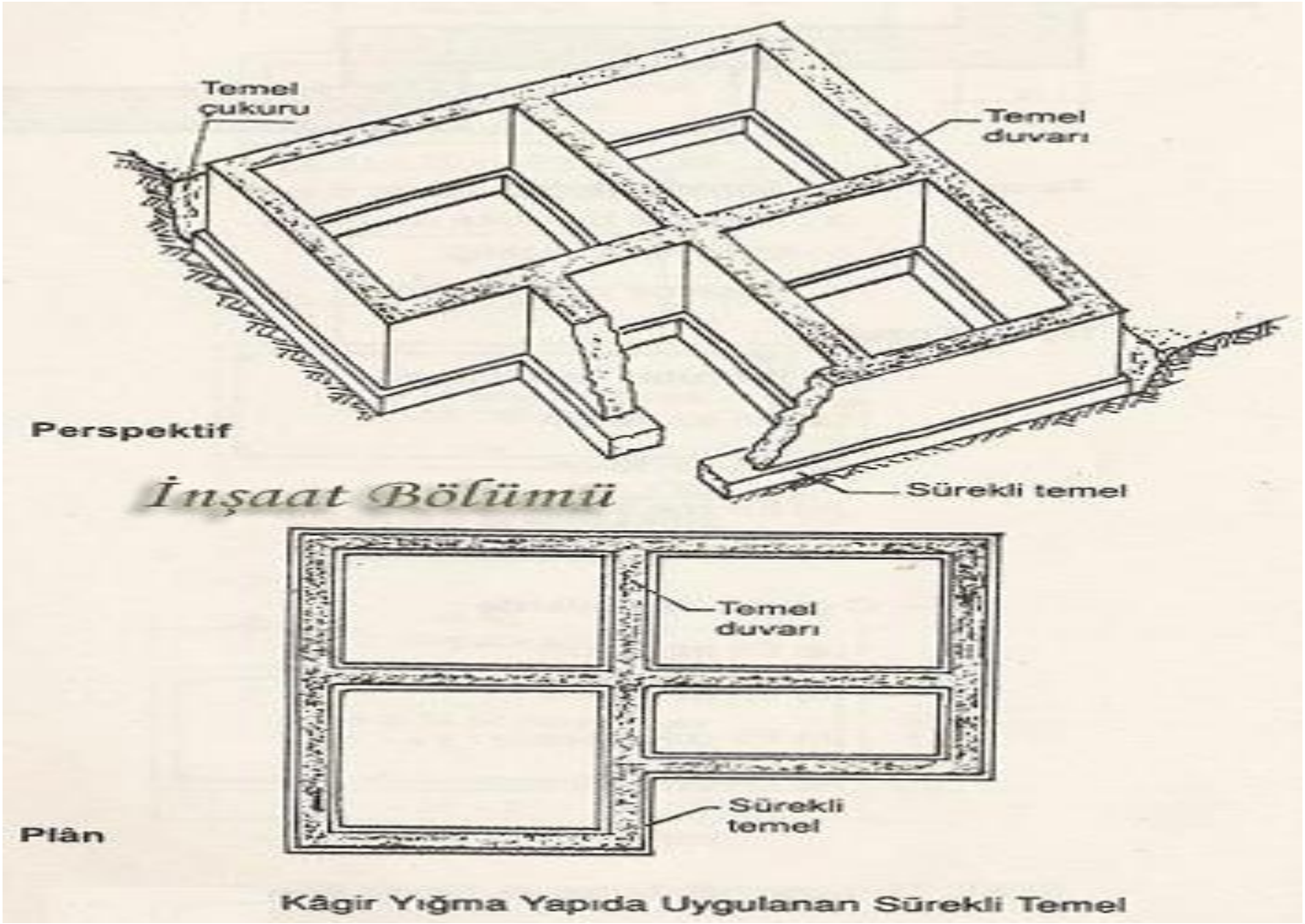
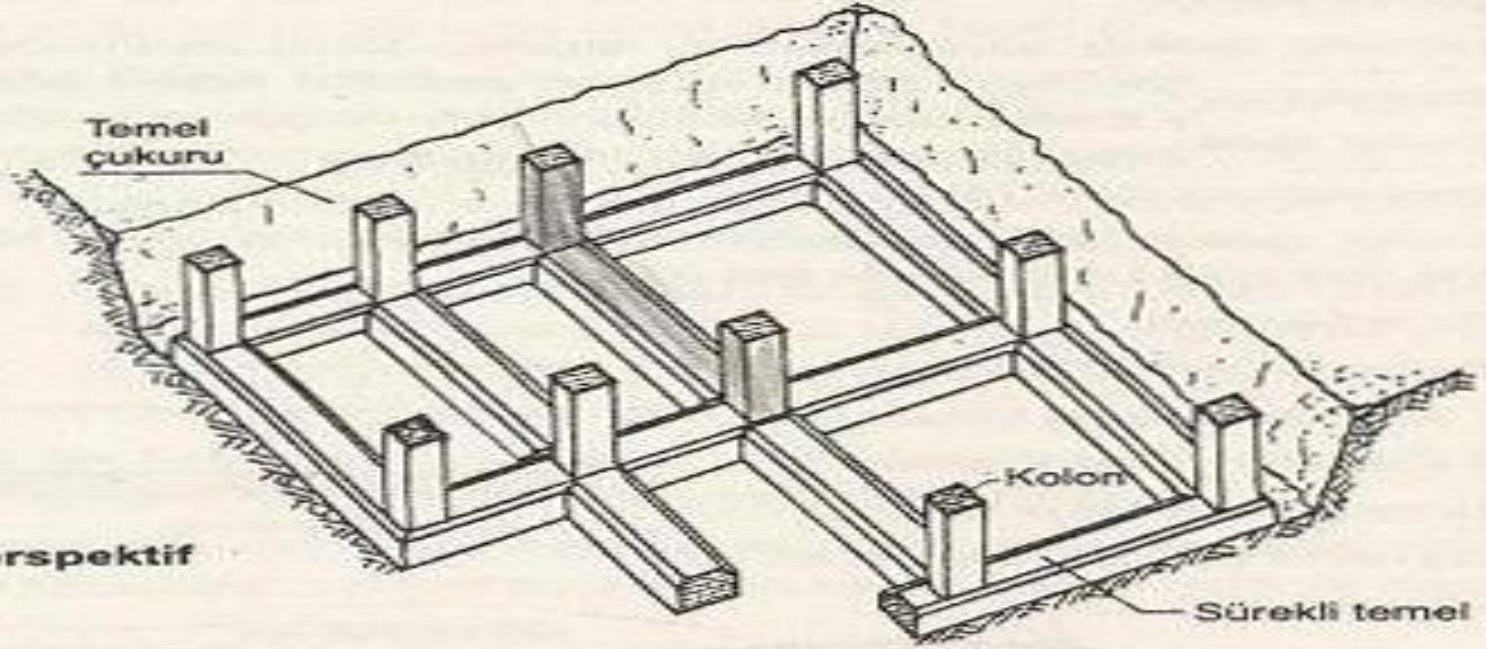


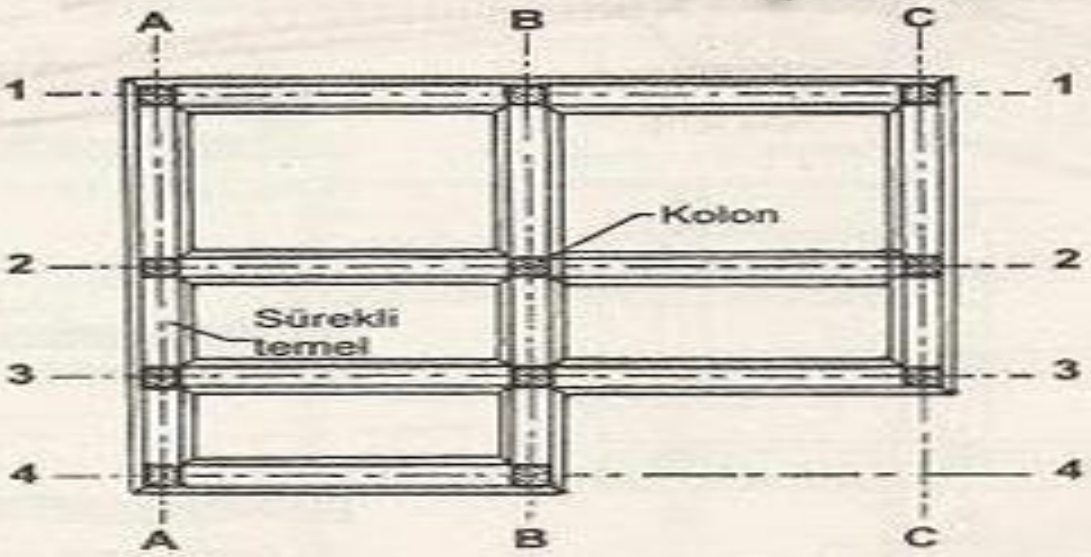
Sürekli Temellere Ait Enkesit Örnekleri



Kâgir Yığma Yapıda Uygulanan Sürekli Temel



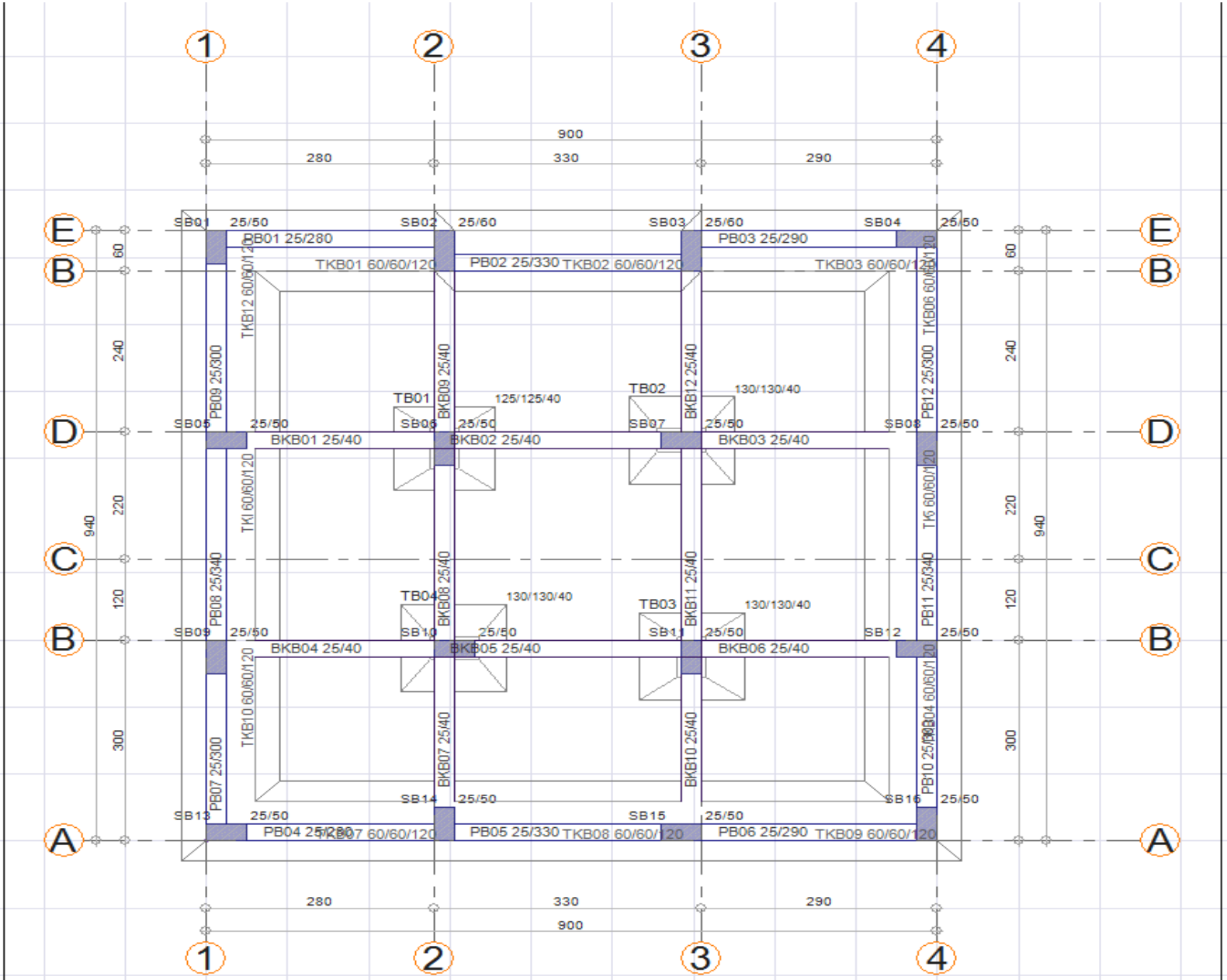
Perspektif



Plân

Betonarme Karkas Yapıda Uygulanan Sürekli Temel

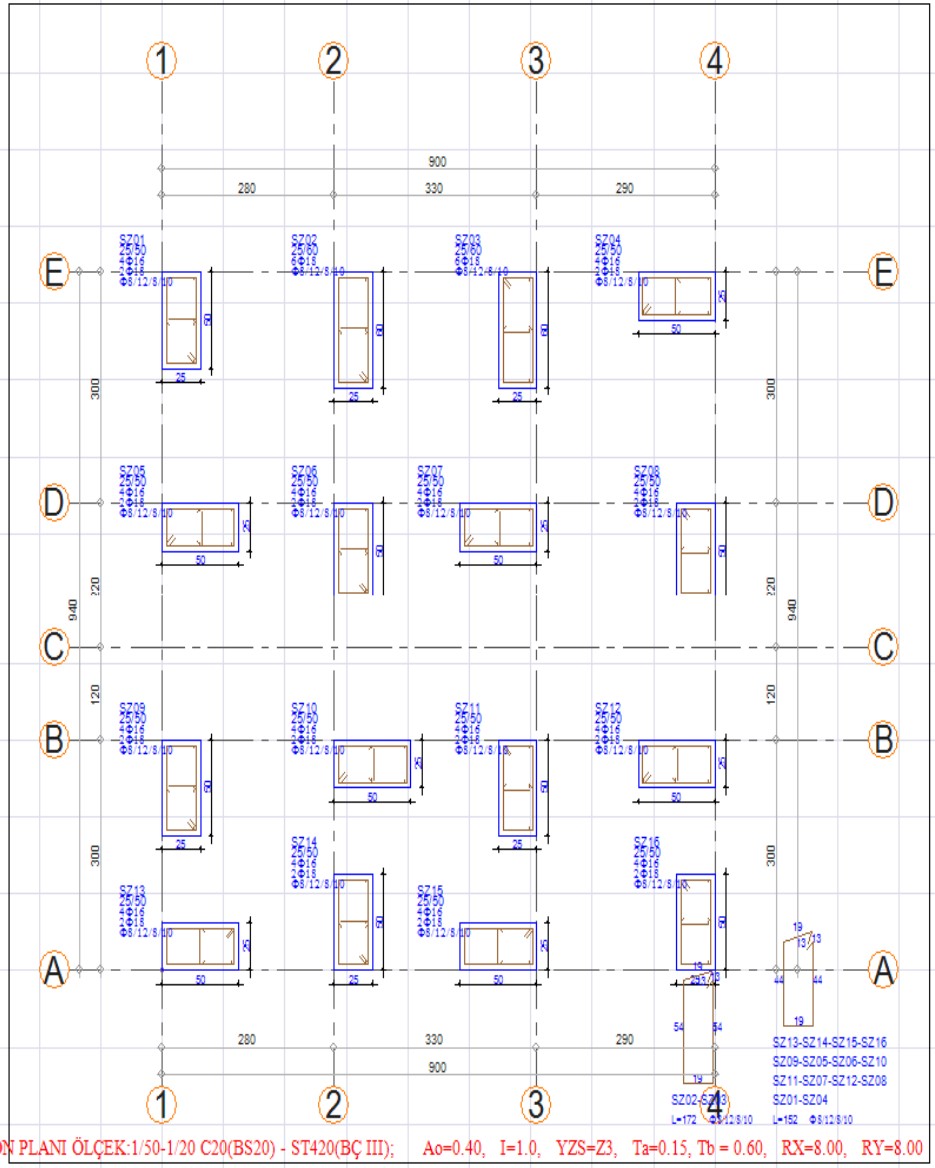
Temel Aplikasyon Planı



1. BODRUM TEMEL APL. PLANI ÖLÇEK:1/50 C20(BS20) - ST420(BÇ III); Ao=0.40, I=1.0, YZS=Z3, Ta=0.15, Tb = 0.60, RX=8.00, RY=8.00

Kolon Aplikasyon Planı Ekran Görüntüsü

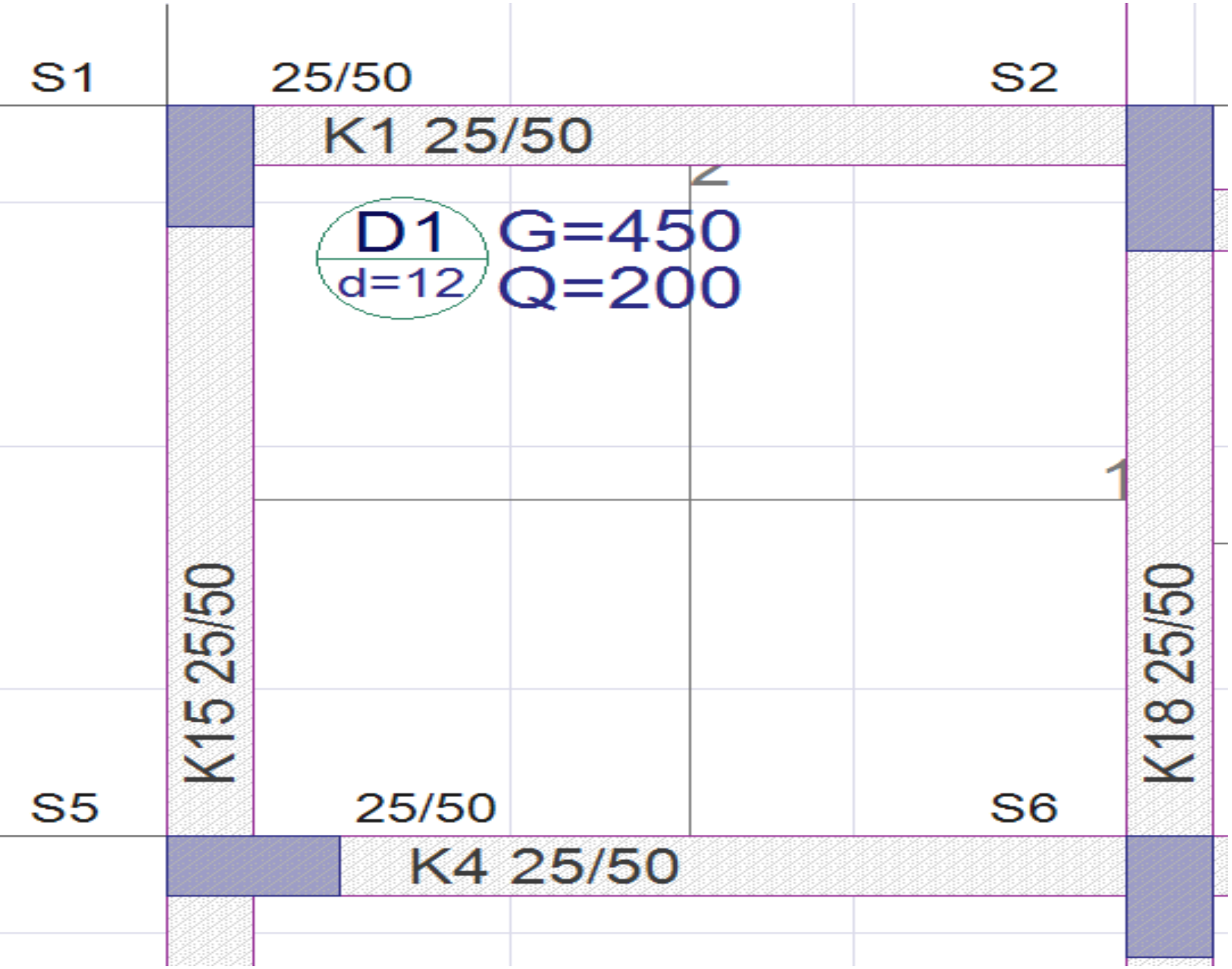
X	2105.96 cm	L	2121.76 cm
Y	258.42 cm	A	6.996

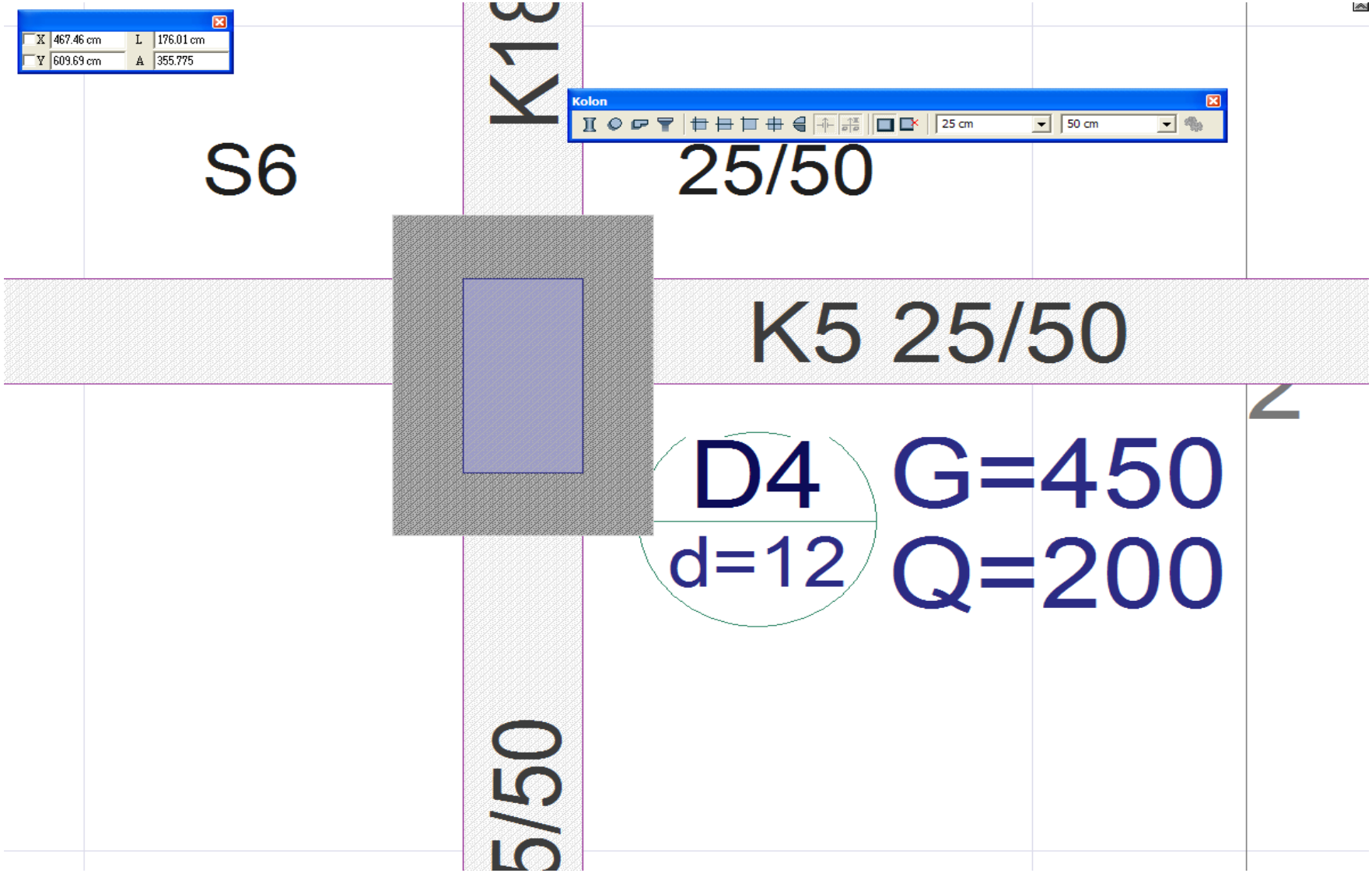


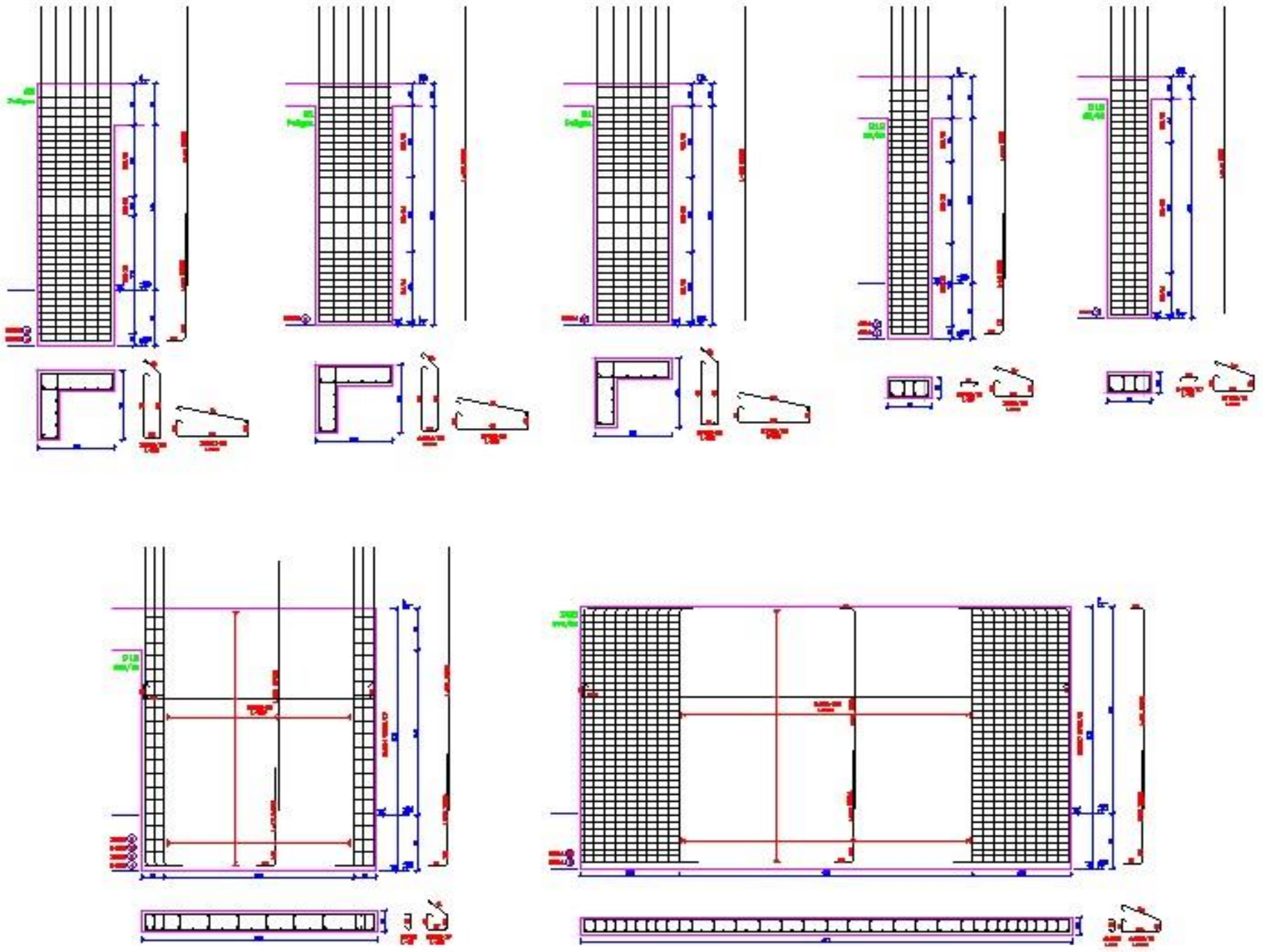
ZEMİN KAT KOLON APLİKASYON PLANI ÖLÇEK:1/50-1/20 C20(BS20) - ST420(BÇ III); Ao=0.40, I=1.0, YZS=Z3, Ta=0.15, Tb = 0.60, RX=8.00, RY=8.00

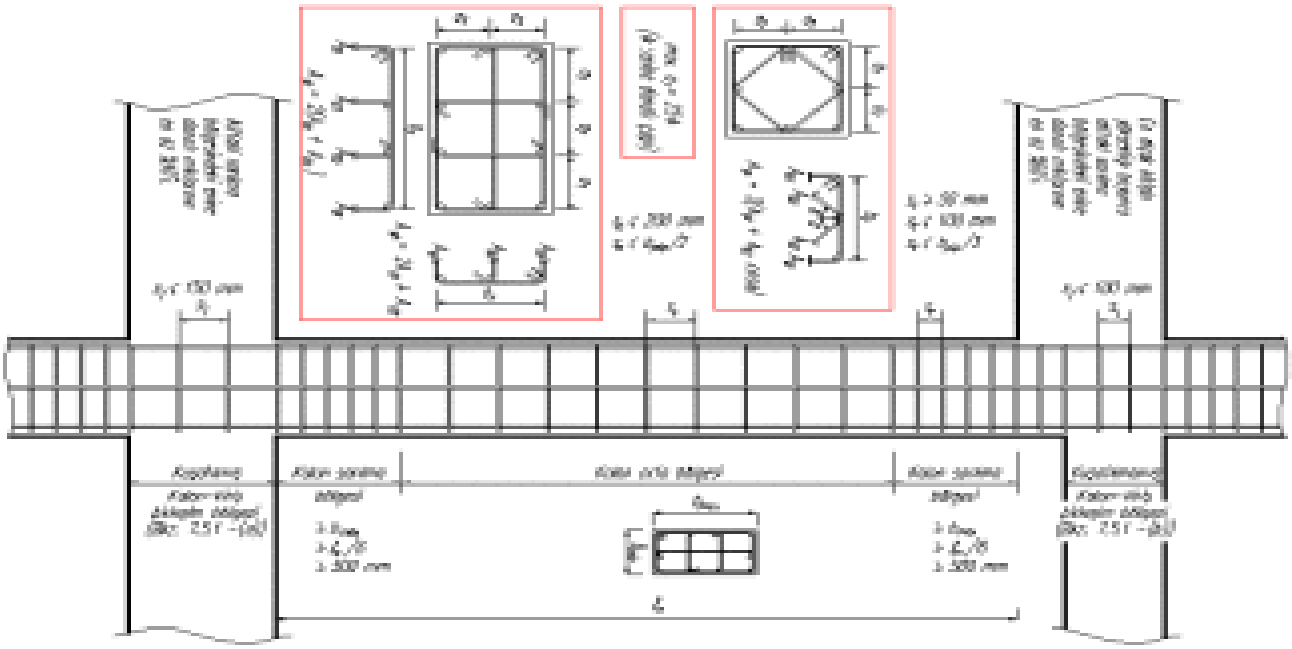
Poz	Adet	Çapı	Boy	Tip	Ağırlık
8	28	18	401		224.18
9	12	18	413		99.10
					323.27
7	56	16	401		354.25
					354.25
1	634	8	24		59.04
3	490	8	152		293.89
2	144	8	172		97.73
					450.66

Donatı toplamı (8-12)	Donatı toplamı (14-32)
450.66	677.52

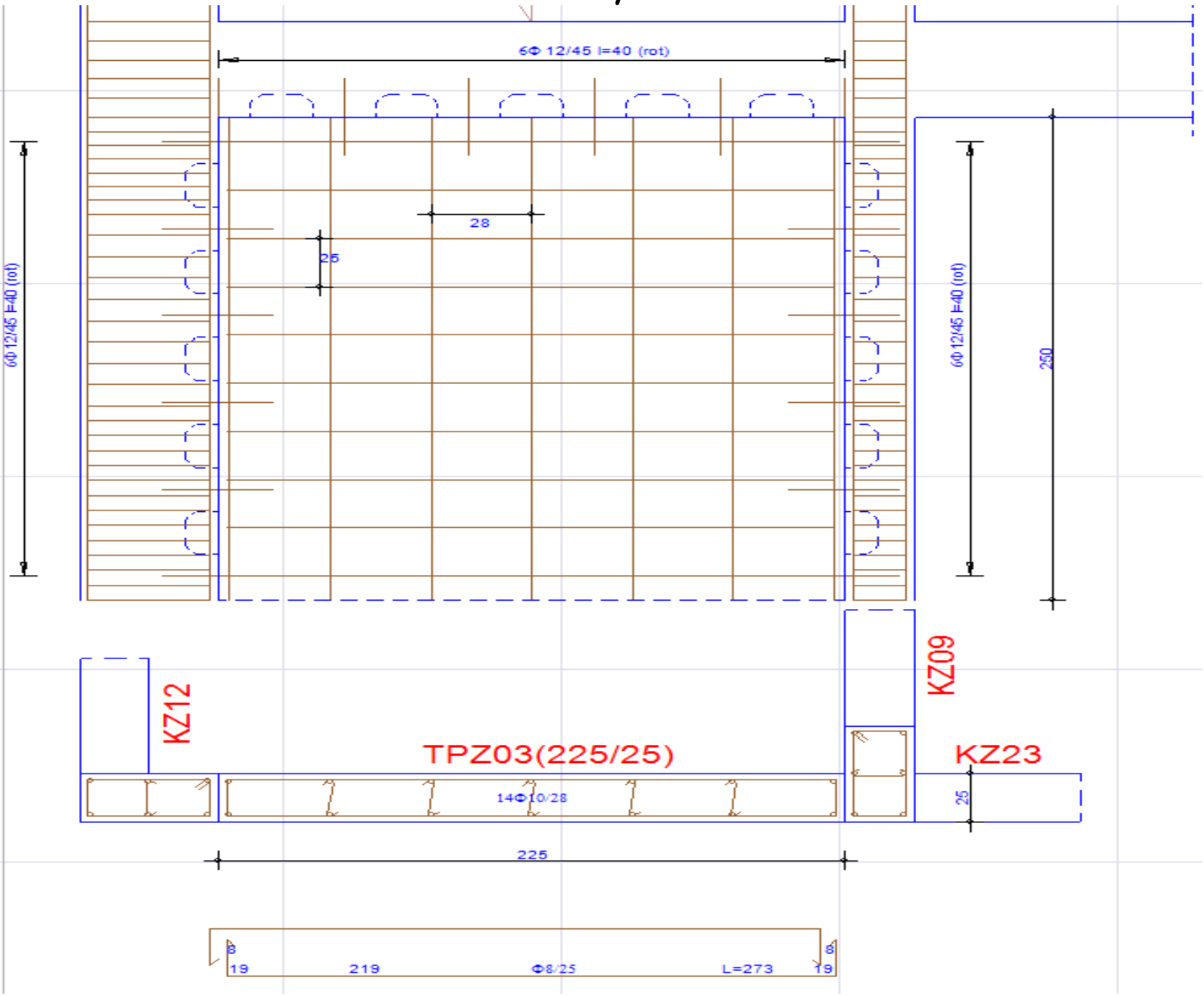

S1
25/50
S2
K1 25/50
D1
d=12
G=450
Q=200
K15 25/50
K18 25/50
S5
25/50
S6
K4 25/50

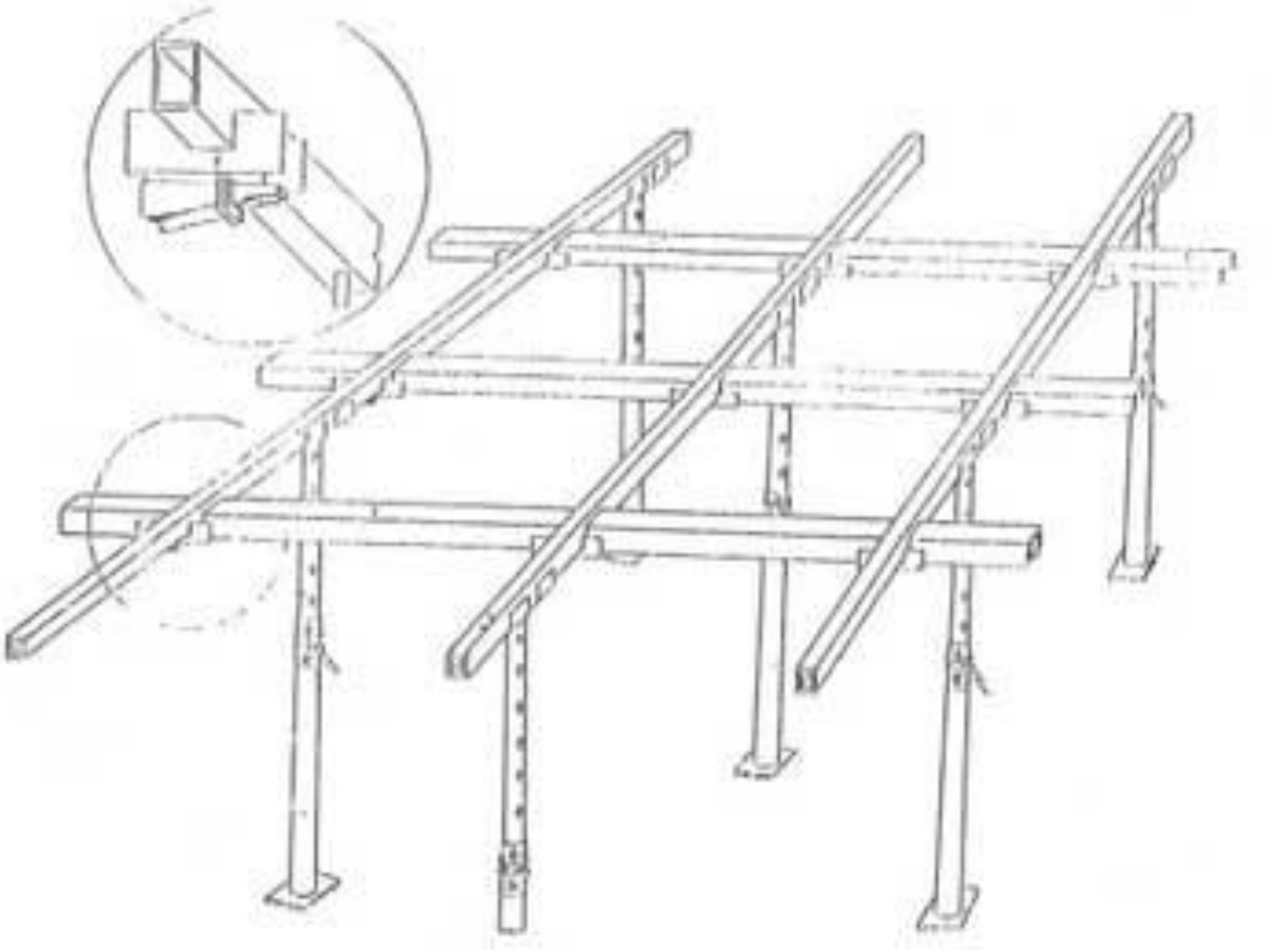

X 467.46 cm
L 176.01 cm
Y 609.69 cm
A 355.775
Kolon
25 cm
50 cm
S6
25/50
K5 25/50
D4
d=12
G=450
Q=200

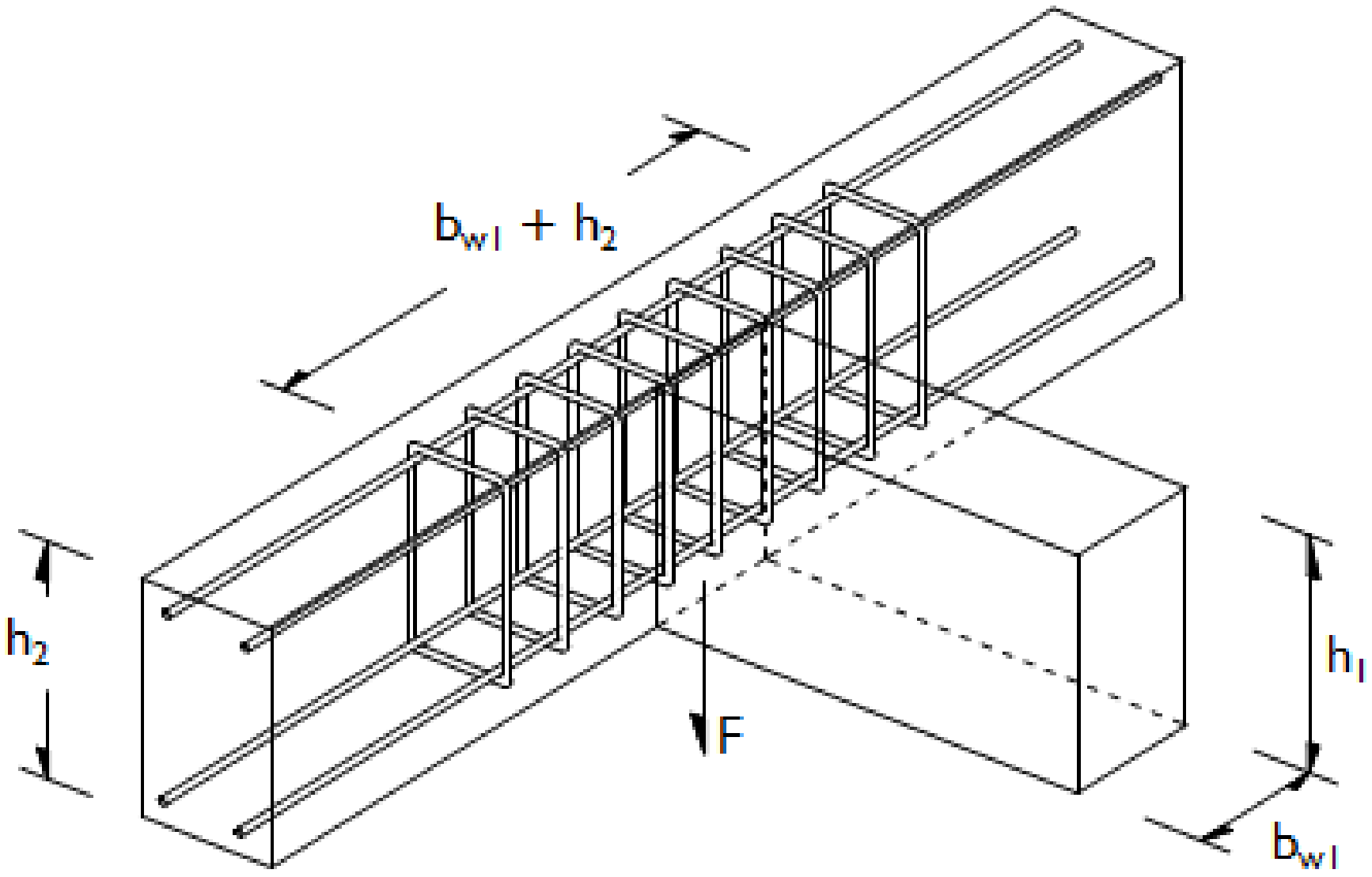


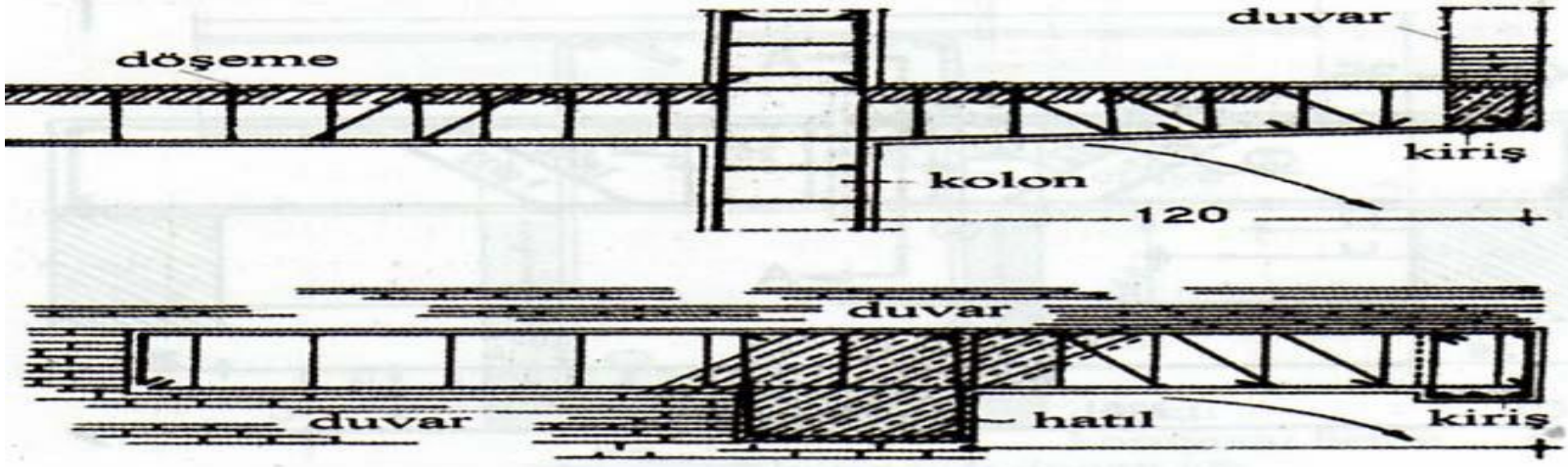

Kolon sonu bölgesi
Kolon ortası bölgesi
Kolon sonu bölgesi

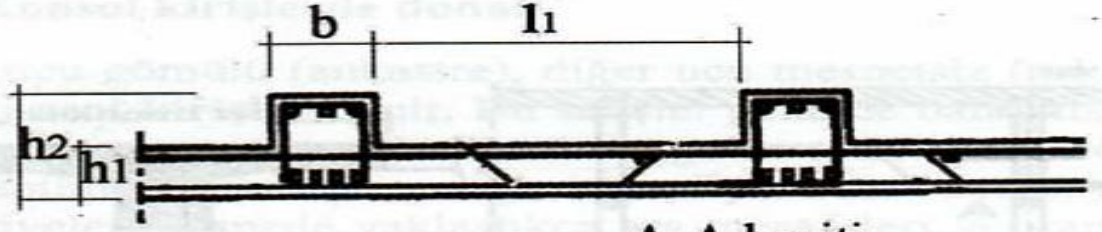
Perde Detayı






$b_{w1} + h_2$
h_2
F
h_1
b_{w1}

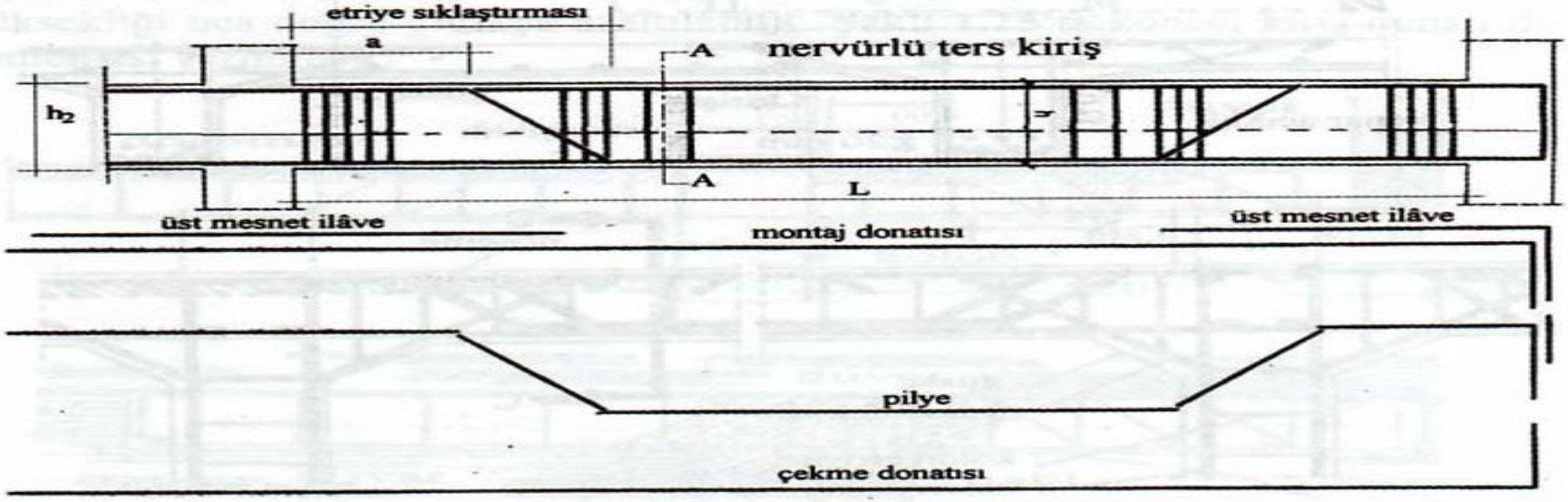




A-A kesiti

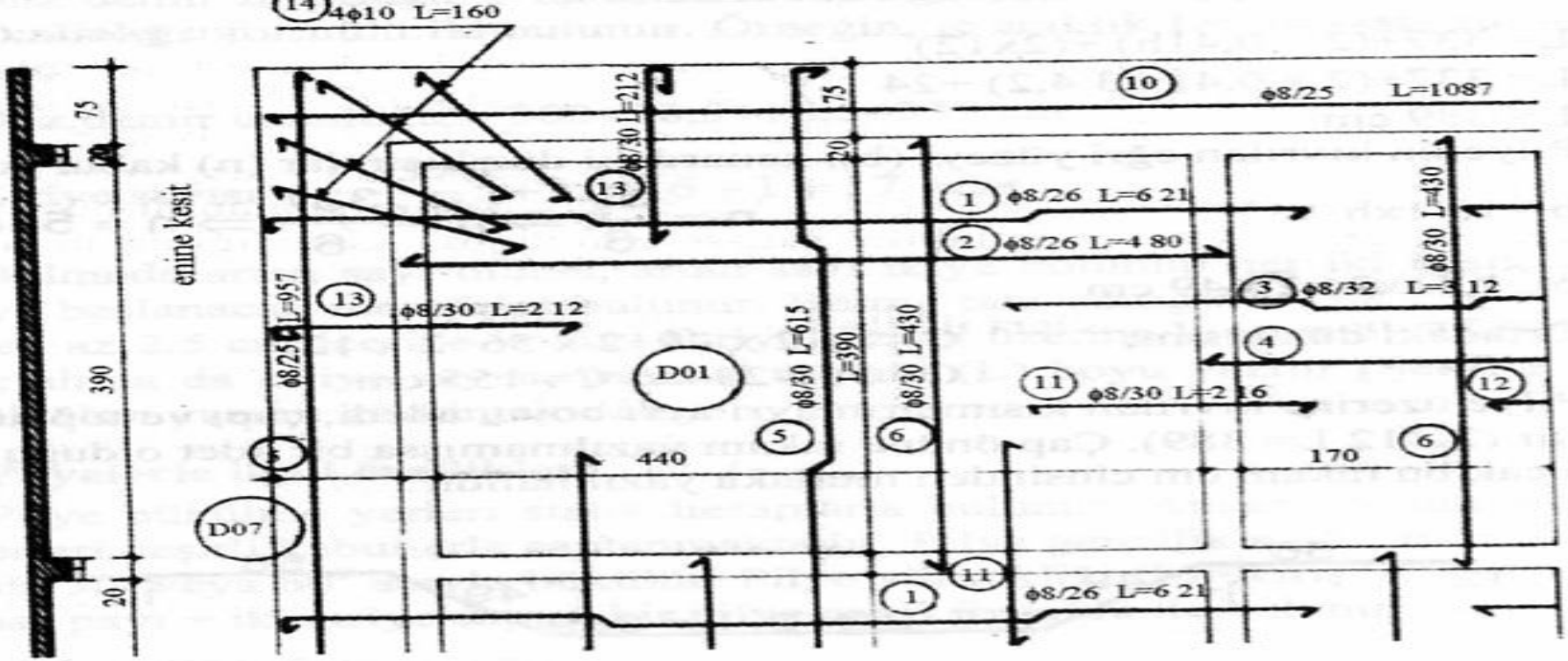
etr.ϕ8/5

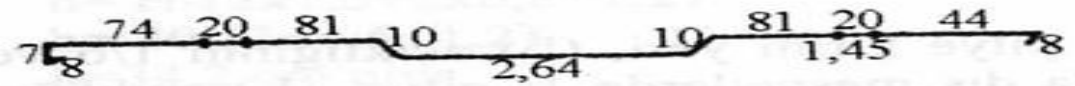
ϕ8/20



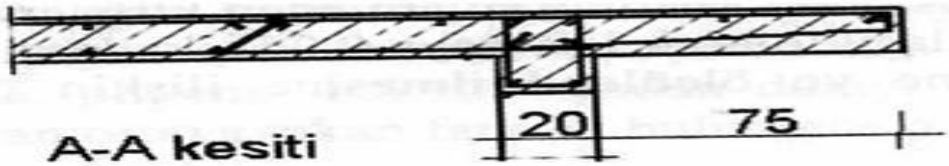
DÖŞEMELER

- 1. KİRİŞLİ PLAK DÖŞEME
  - Bir doğrultuda çalışan
  - İki doğrultuda çalışan
- 2. DİŞLİ (NERVÜRLÜ) DÖŞEME
  - Bir doğrultuda dişli döşeme (dolgu bloklu; asmolen döşeme)
  - İki doğrultuda dişli döşeme (kaset döşeme)
- 3. KİRİŞSİZ DÖŞEME (Mantar döşeme)
- 4. KOMPOZİT DÖŞEME

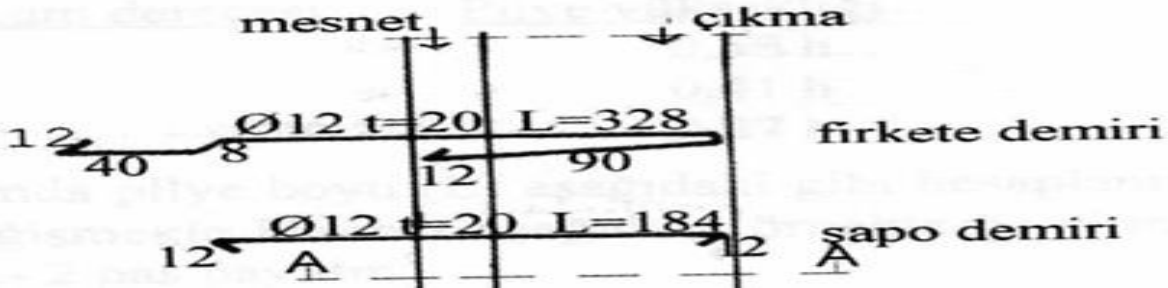




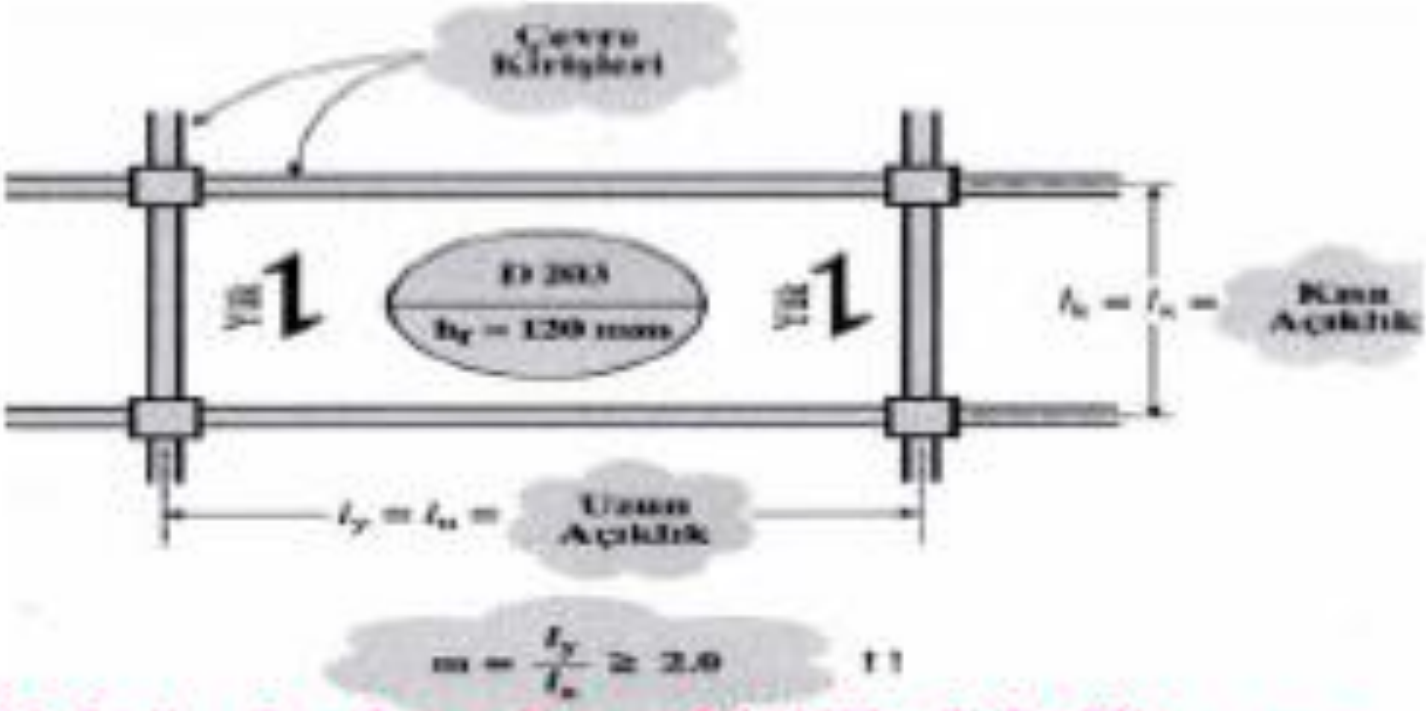
1 30ϕ8/26 cm L=6,21 m



A-A kesiti

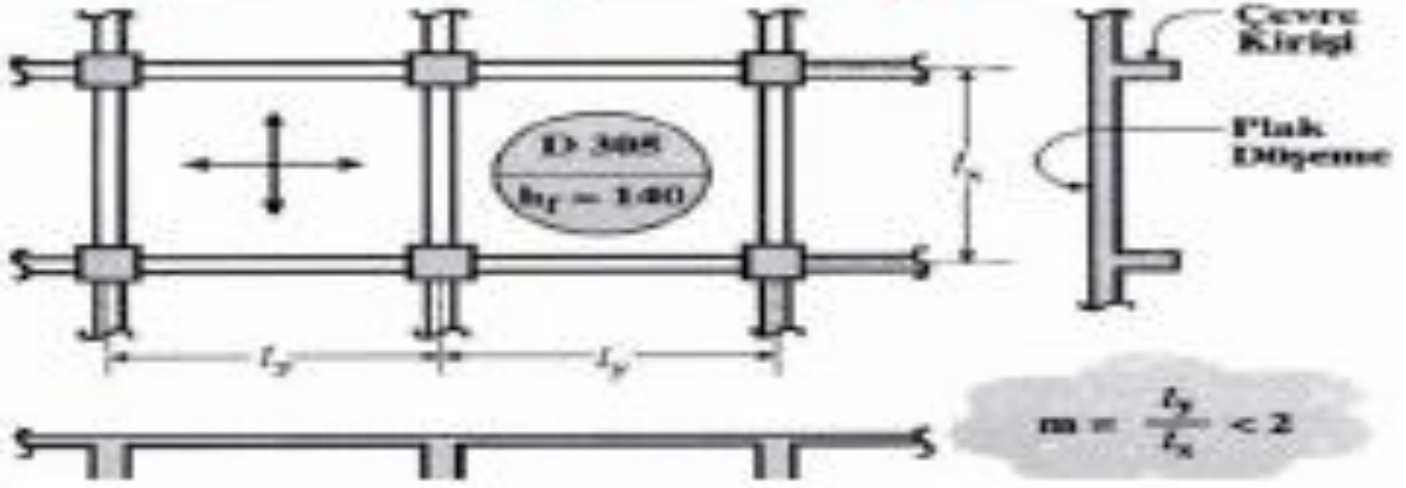


Tek doğrultuda çalışan kirişli plak döşeme

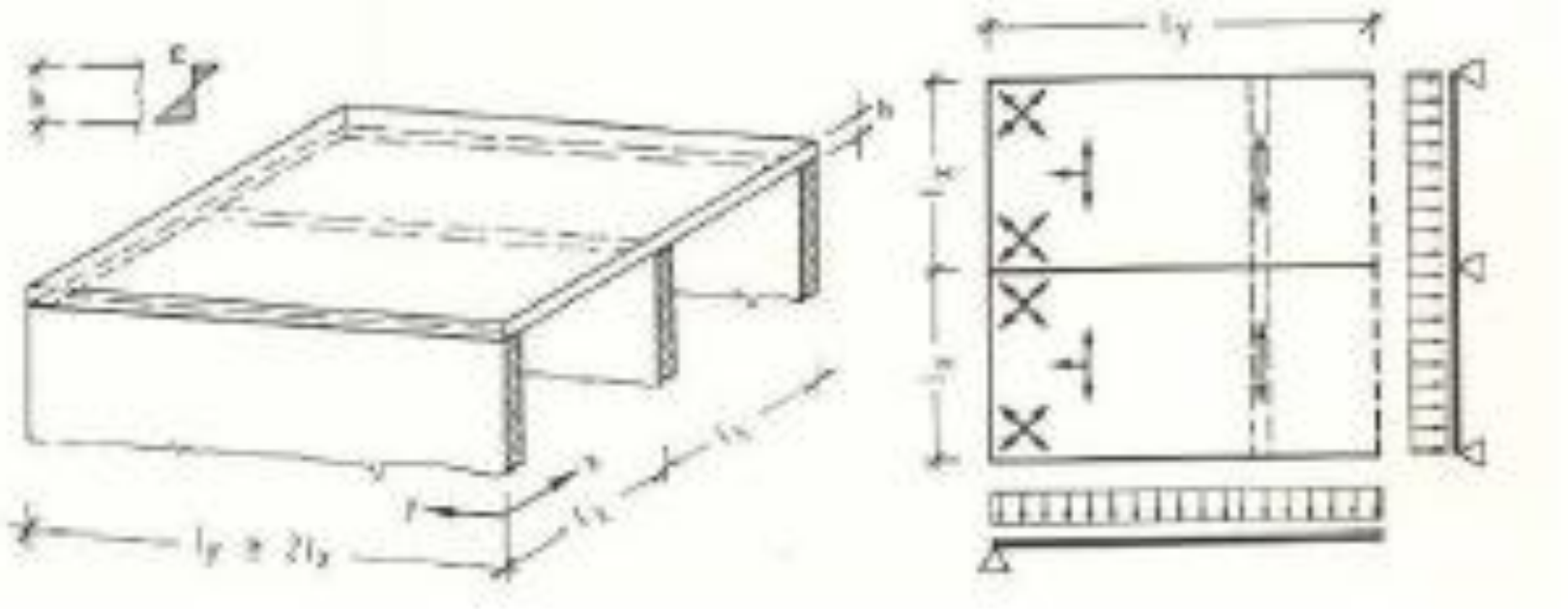


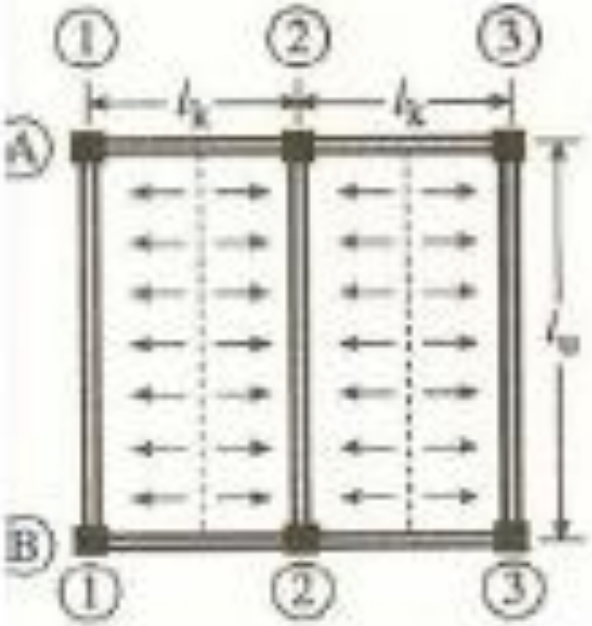
$$m = \frac{l_y}{l_x} \geq 2.0$$ (1)

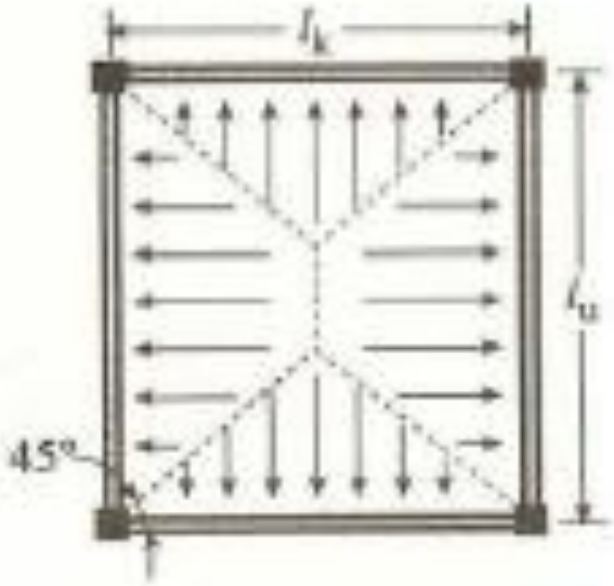
İki doğrultuda çalışan kirişli plak döşeme

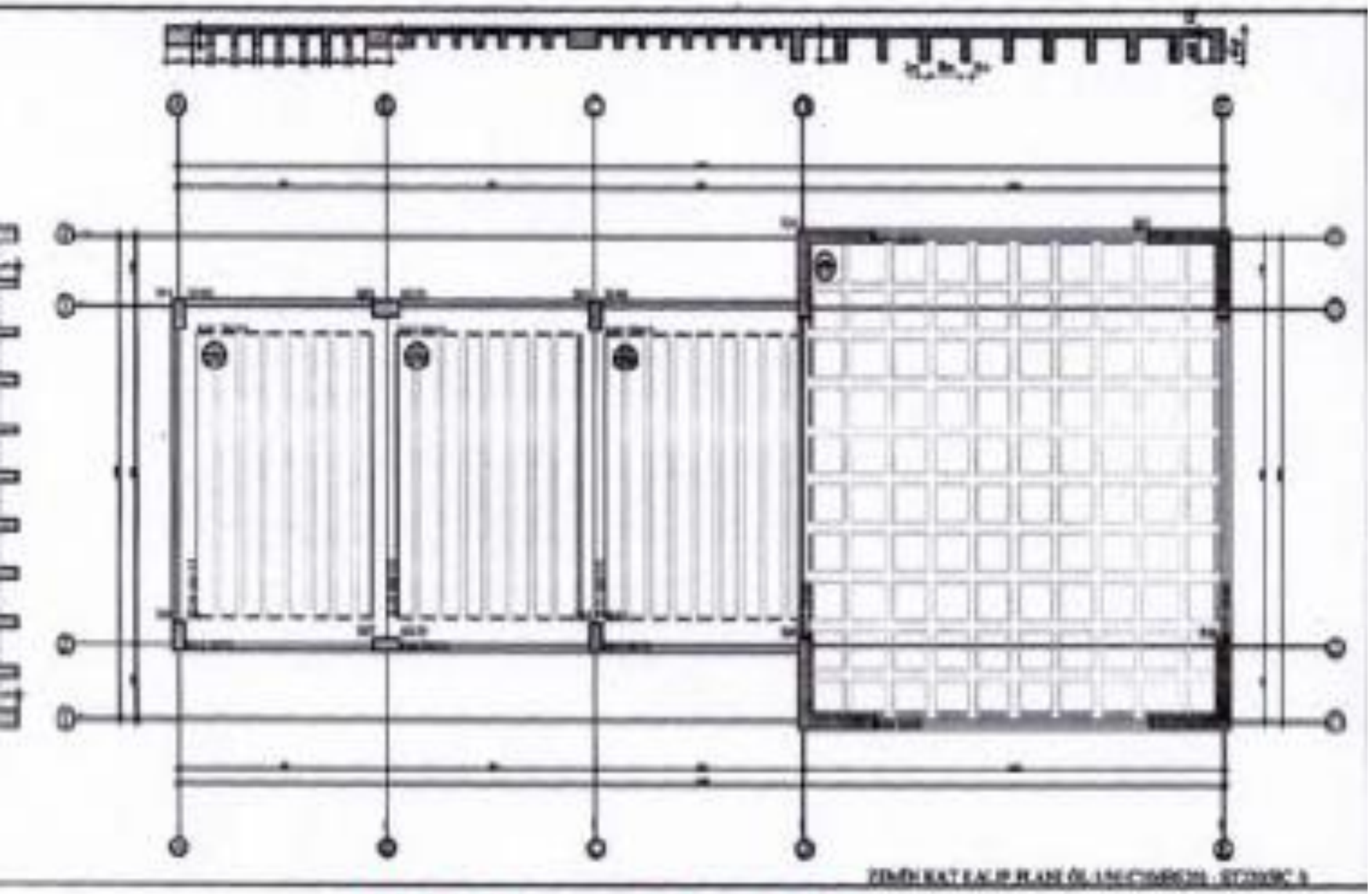


$$m = \frac{l_y}{l_x} < 2$$




1
2
3
A
B
l_k
l_k
l_u


l_k
l_u
45°



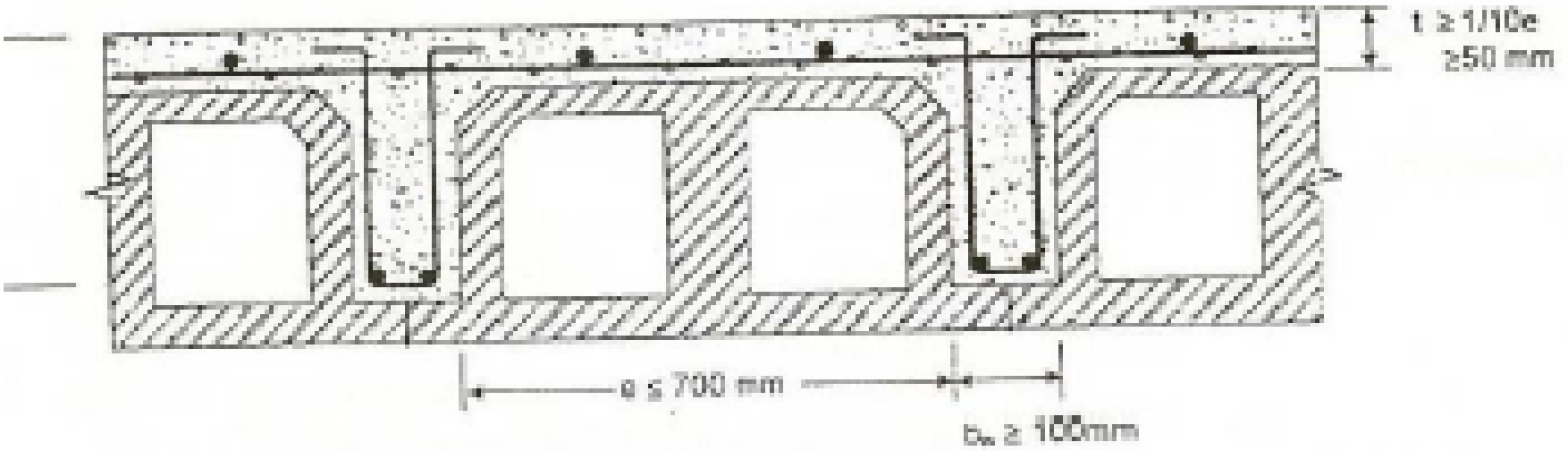
Dişli döşeme + kaset döşeme.

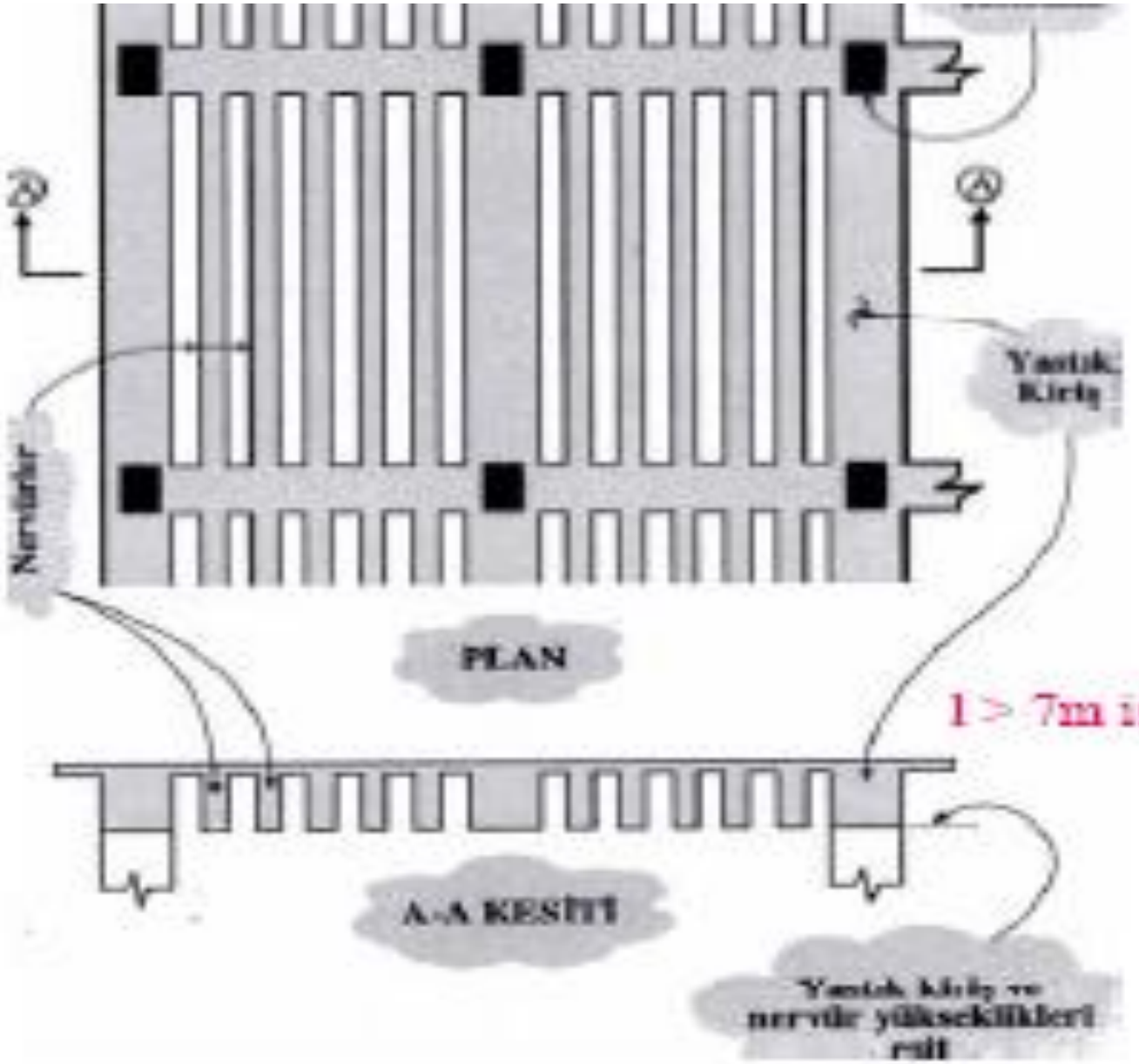
DİŞLİ DÖŞEMELER

- Bir doğrultuda dişli döşeme
- Dolgu bloklu dişli döşeme: asmolen döşeme
- İki doğrultuda dişli döşeme
- Kaset döşeme

Kirişlerdeki kurallar geçerli.

- Basınç donatısı gerekmeyecek şekilde eğilme donatısı
- Minimum kayma donatısı olacak şekilde kesit





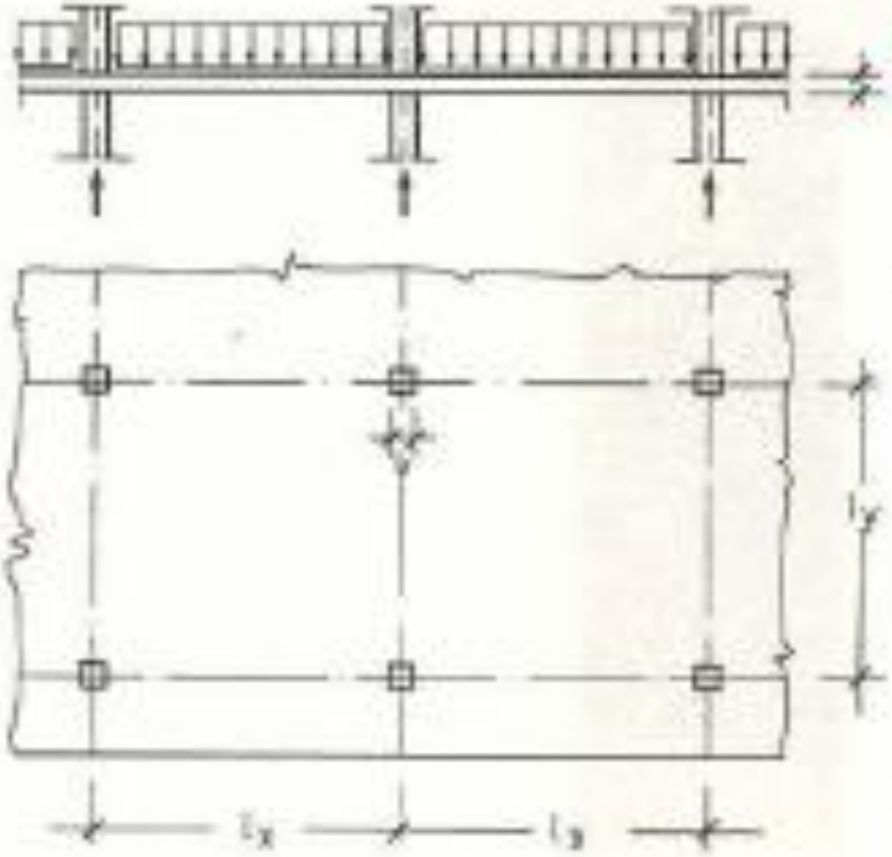
l > 7m ise bir enine diş

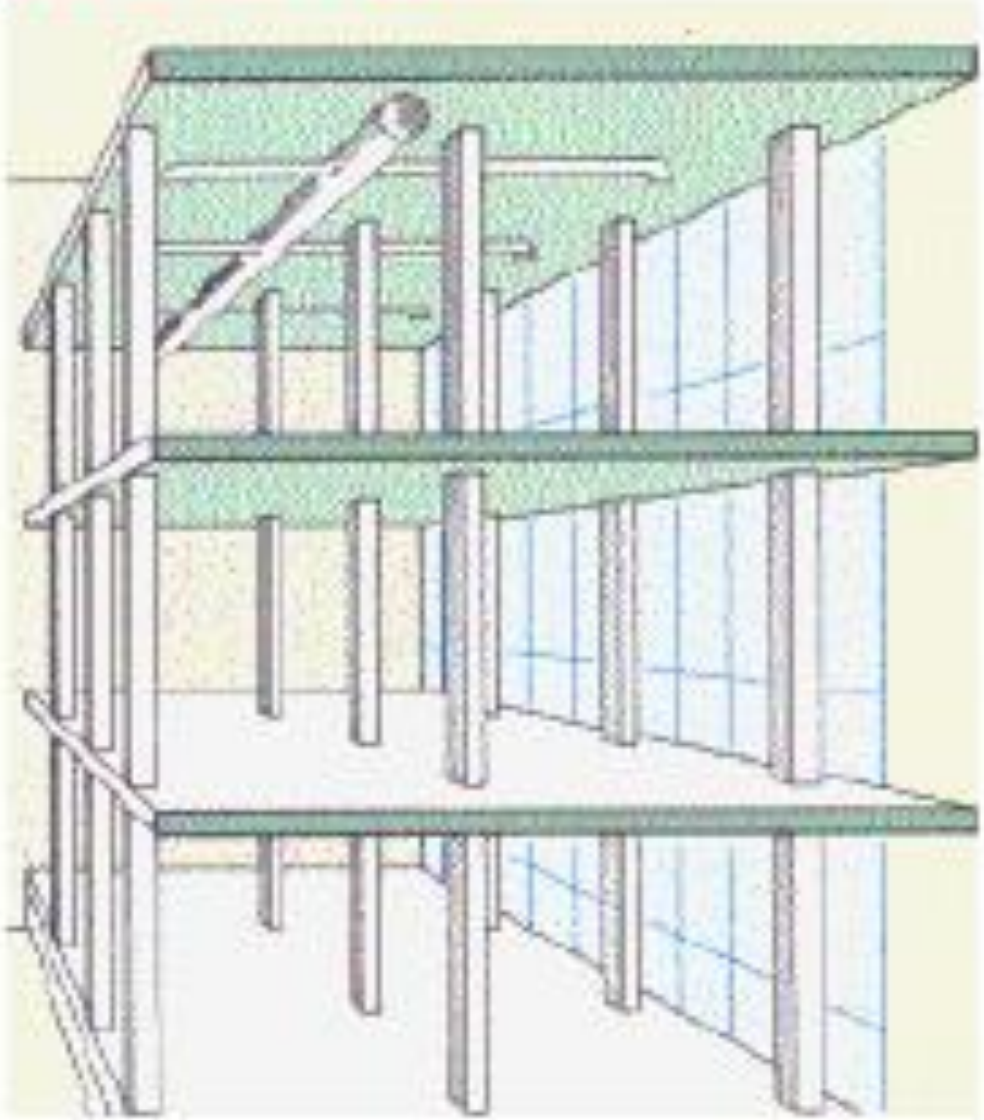
Dişli döşeme, plan ve kesit

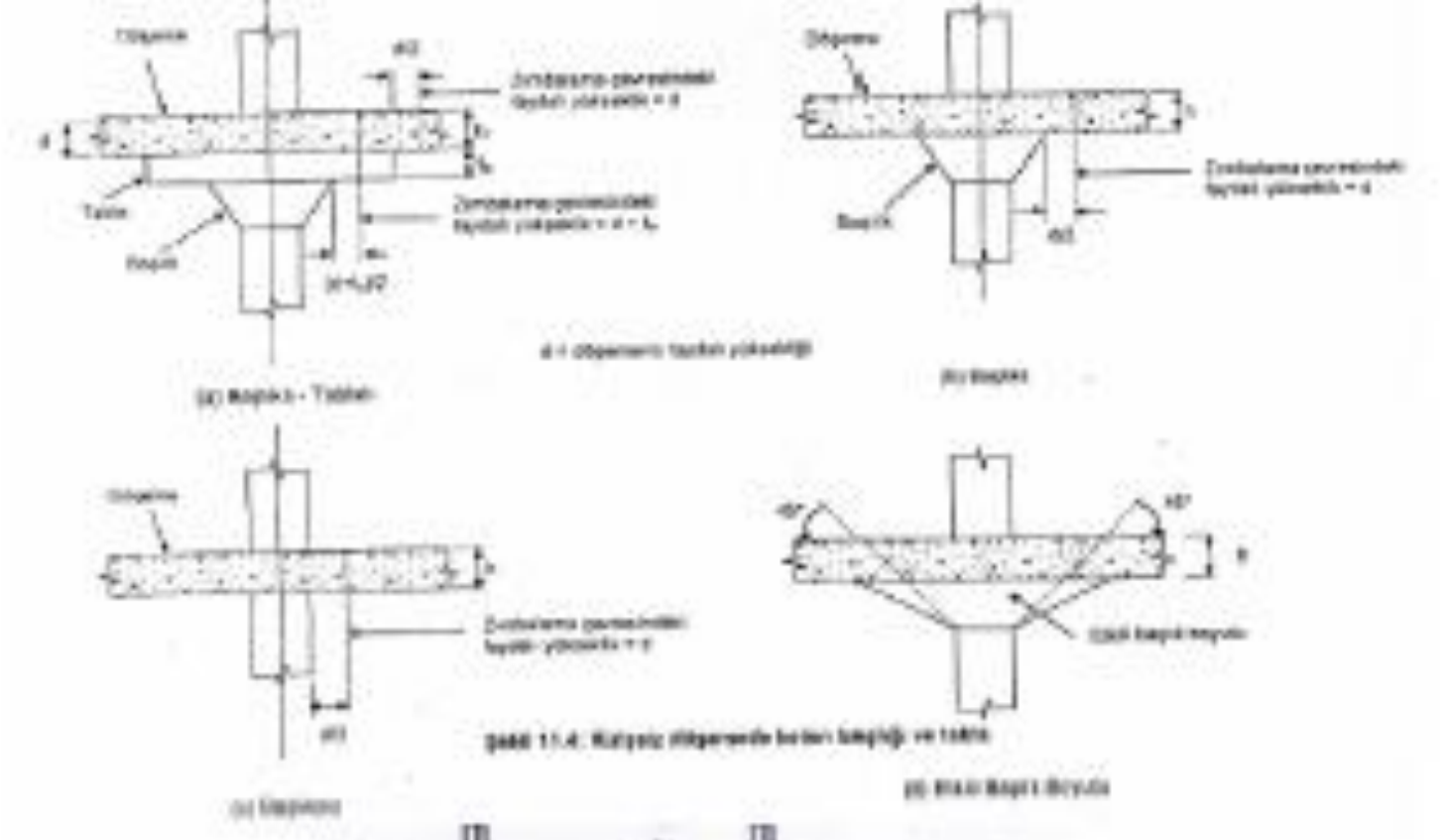

Kaset Döşeme

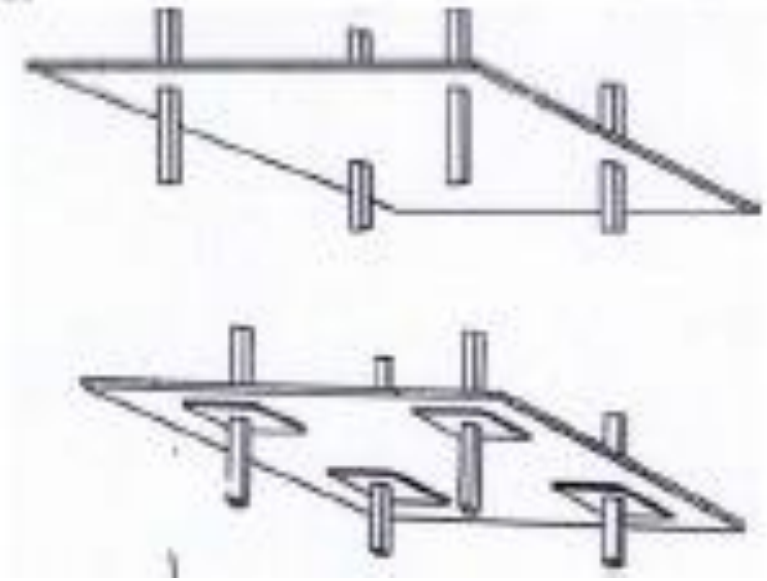

Kaset Döşeme

Kirişsiz Döşeme

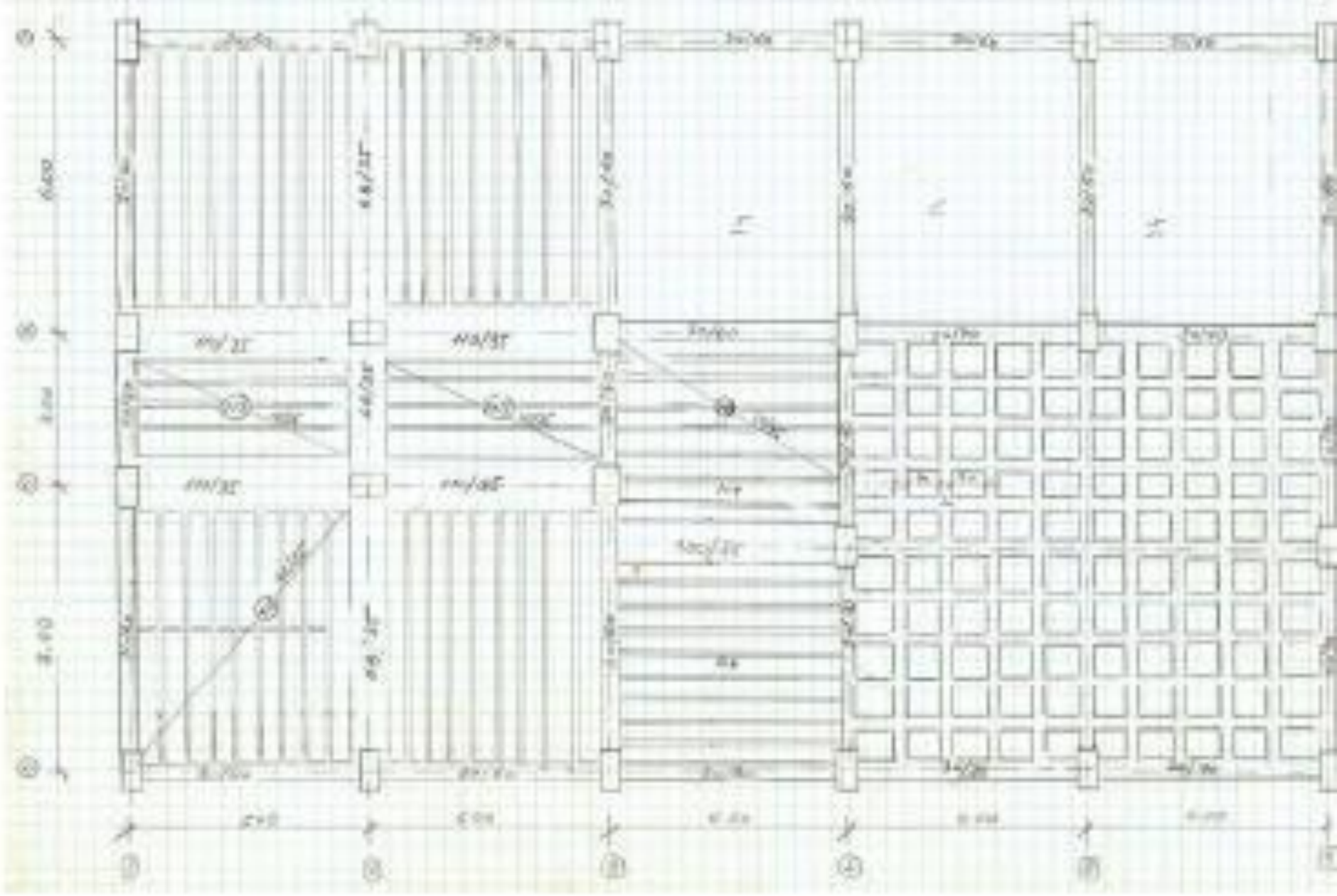






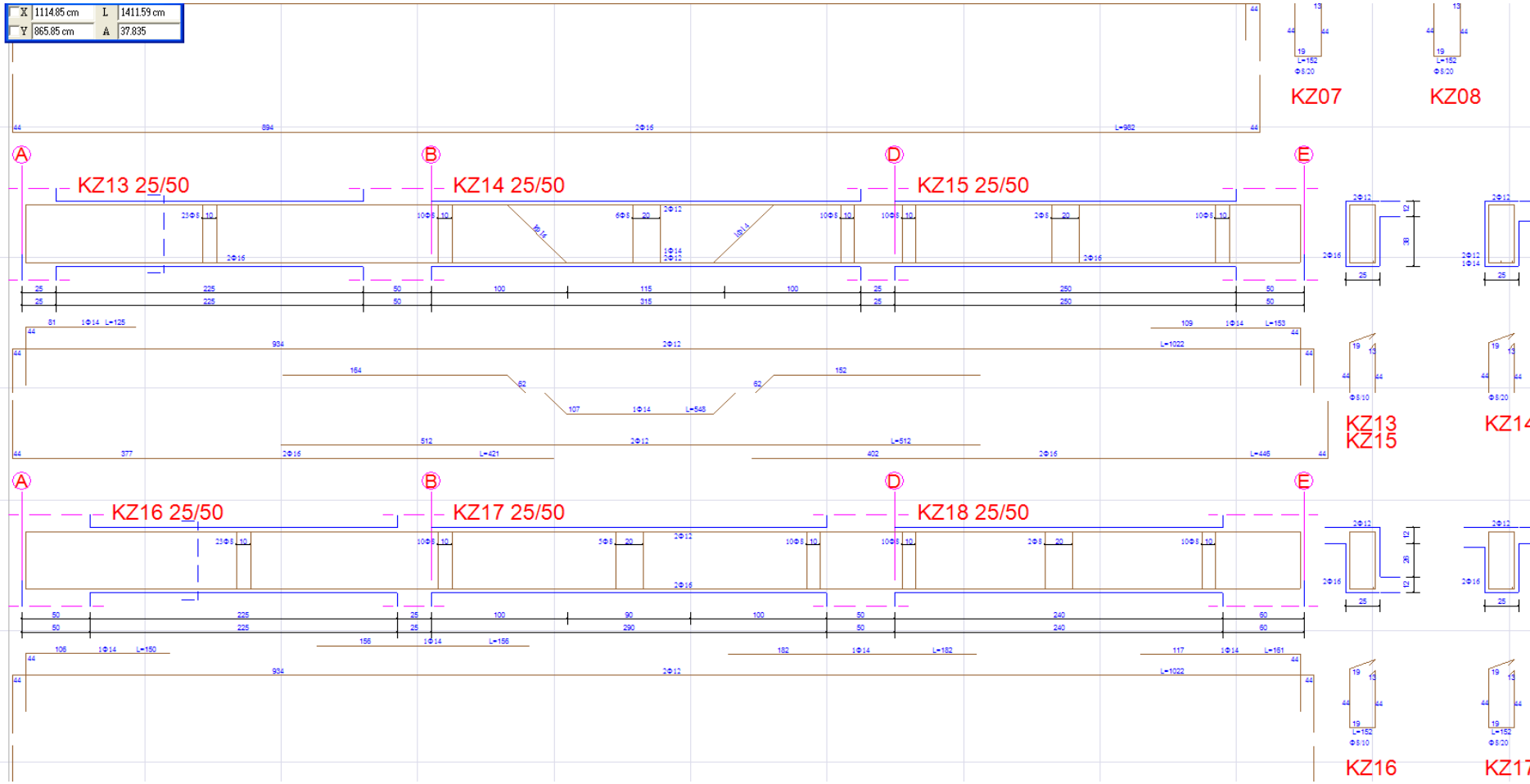


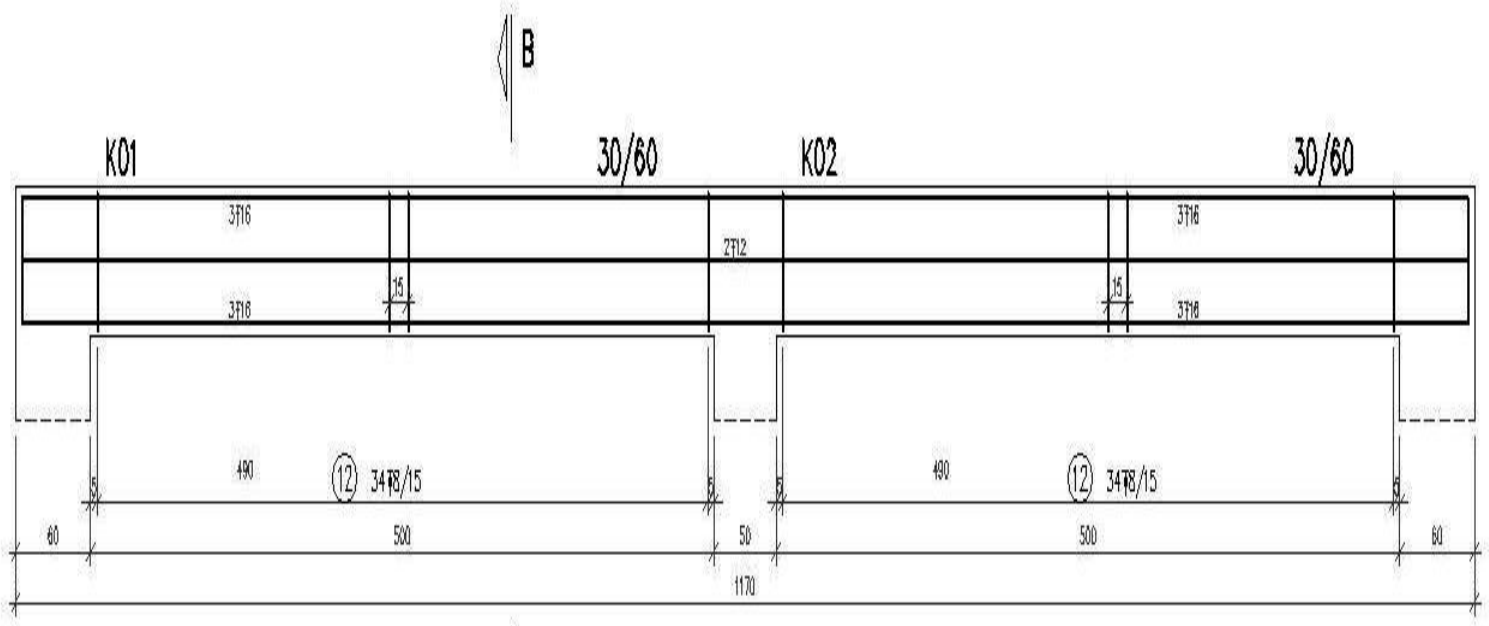
Kirişsiz Döşeme

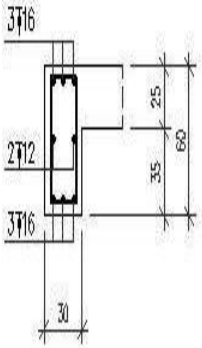


Kirişli plak, dişli ve kaset döşeme içeren kalıp planı

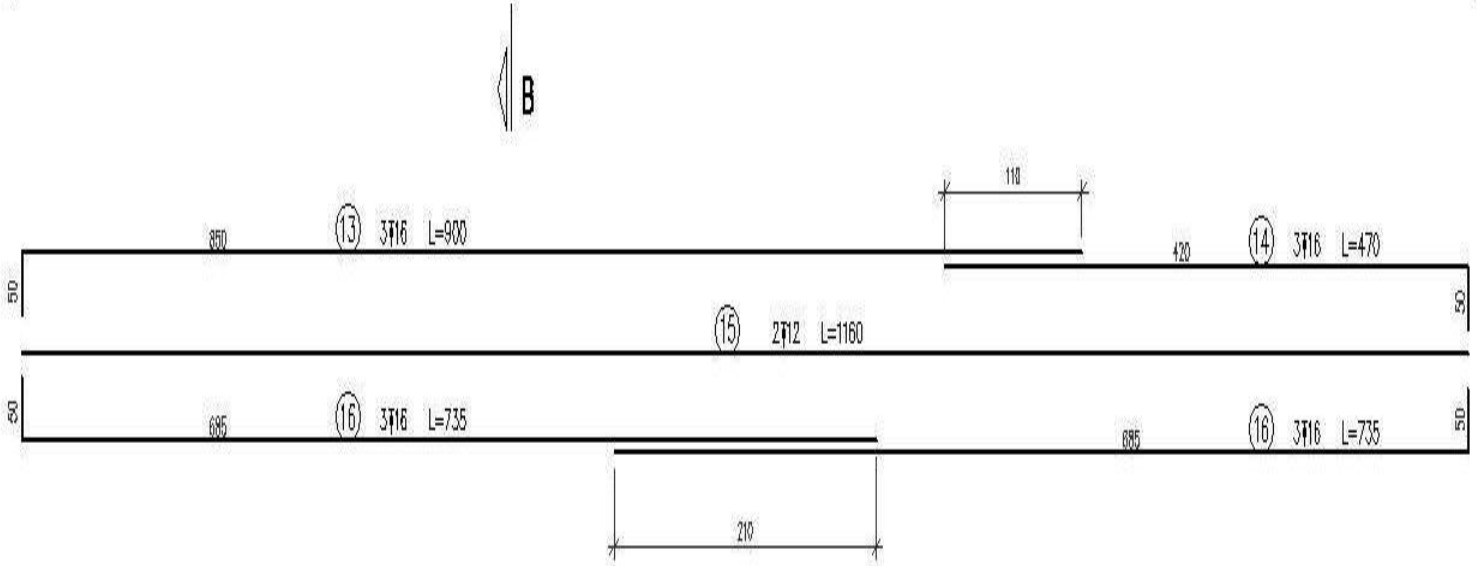
Kiriş Açılımları




B
K01
30/60
K02
30/60
3Ø16
2Ø12
3Ø16
15
15
3Ø16
3Ø16
490
⑫ 34Ø8/15
490
⑫ 34Ø8/15
5
5
5
5
60
500
50
500
60
1170


3Ø16
2Ø12
3Ø16
25
60
35
30
20
10
50
50
20
⑫ 68Ø8
L=160

KESİT B-B 1/25


B
110
850
⑬ 3Ø16 L=900
420
⑭ 3Ø16 L=470
50
50
⑮ 2Ø12 L=1160
50
50
685
⑯ 3Ø16 L=735
685
⑯ 3Ø16 L=735
210