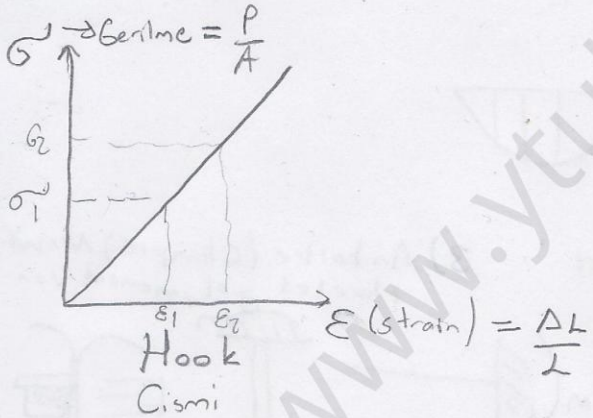
MEKANİK

- Rijit Cisimlerin Mekaniği
  - Statik
  - Dinamik
- Şekil Değiştiren Cisimlerin Mekaniği (Mukavemet)
  - Elesto-Statik
  - Elesto-kinetik
- Akışkanlar Mekaniği
  - Sıkıştırılamayan Akışkanlar Mekaniği
  - Sıkıştırılabilen Akışkanlar Mekaniği

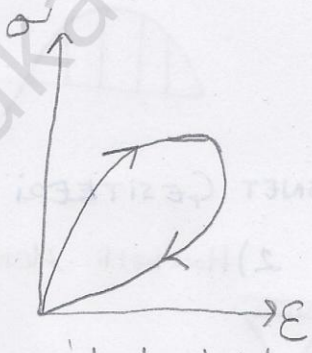
Tasarımda Dikkat Edilecek Konular

- Emniyet Şartı
- Ekonomiklik Şartı
- Estetiklik

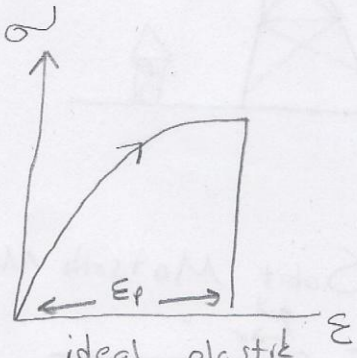
İDEAL MALZEMELER



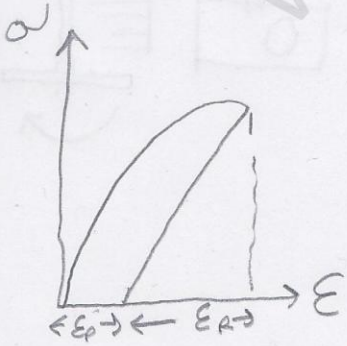
Hook Cismi



ideal elastik cisim (tam elastik)



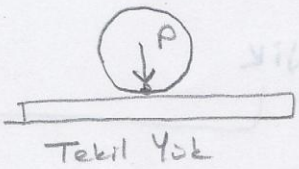
ideal plastik (tam plastik)

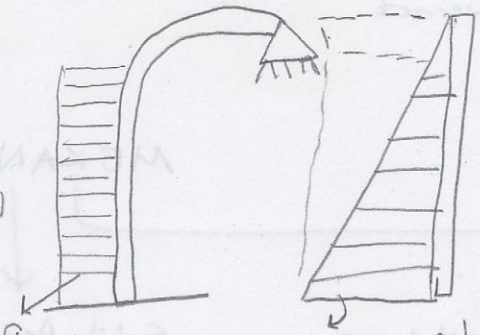


Elestro-Plastik

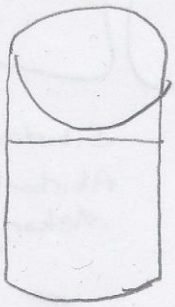
Kuvvet Çeşitleri

1) Tekil Yük (Kuvvet)
2) Yayılı Yük
3) Moment Yükler

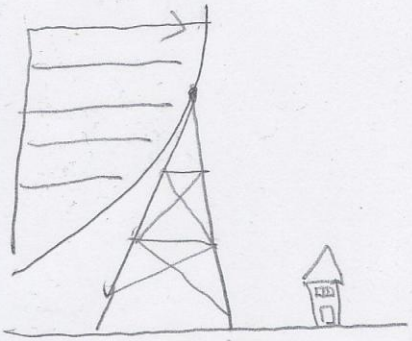




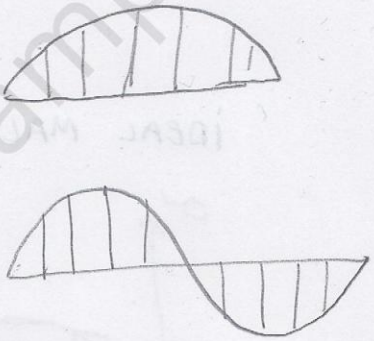
Düzgün yayılı yük — Üçgen yayılı yük



2.4 Parabolik Yük

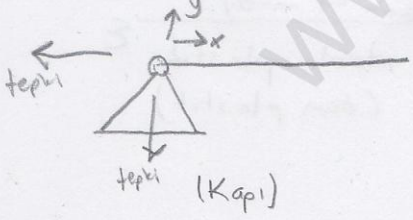


2.5 Diğer Yayılı Yük Çeşitleri

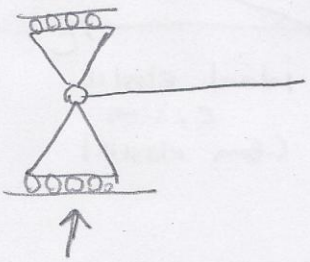


MESNET ÇEŞİTLERİ

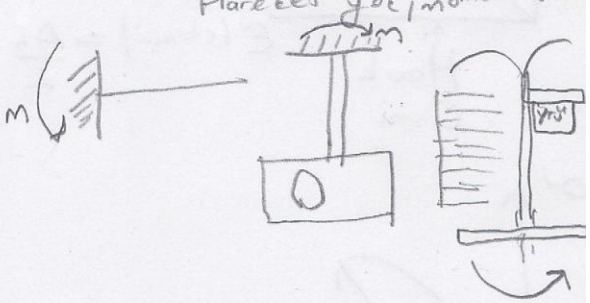
1) Sabit Mafsallı Mesnet



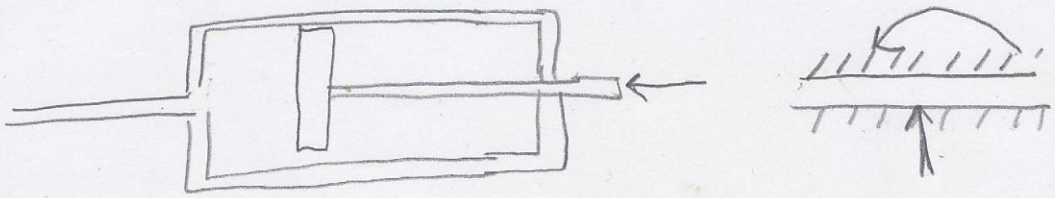
2) Hareketli Mesnet



3) Ankastre (Clamped) Mesnet
Hareket yok, moment var



4) Kayıcı Ankastre Mesnet



Statikçe Belirli Sistemler (Statically determined systems) Kiriş Çeşitleri (Kinds of beam)

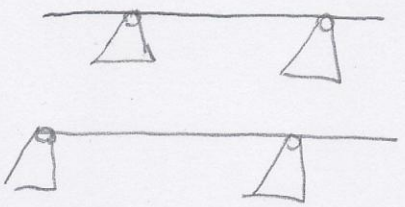
1)

Basit mesnetli kiriş
(simple supported beam)

2)

Konsol kiriş (projektör)
bir uçu ankastre (clamped)
diğer uçu serbest

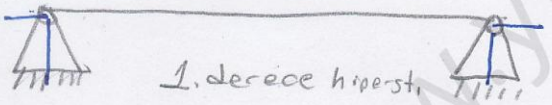
3)



Gerber Mesnetli Kiriş

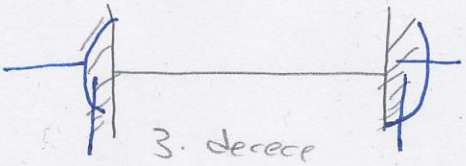
$$\rightarrow \Sigma f_x = 0$$
$$\uparrow \Sigma f_y = 0$$
$$\circlearrowleft \Sigma m = 0$$

Statikçe Belirli Olmayan (Hiperstatik) Sistemler
(Statically Undetermined systems)



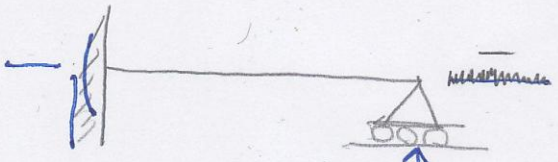
1. derece hiperstatik

Bilinmeyen sayısı 4
D.D.S = 3 (Değer)
Hiperstatik Derecesi = BS - DDS
= 4 - 3 = 1

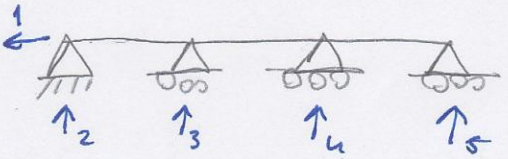


3. derece

BS = 6
D.DS = 3
H.D = 6 - 3 = 3



HD = 4 - 3 = 1



BS = 5
DDS = 3
HD = 5 - 3 = 2