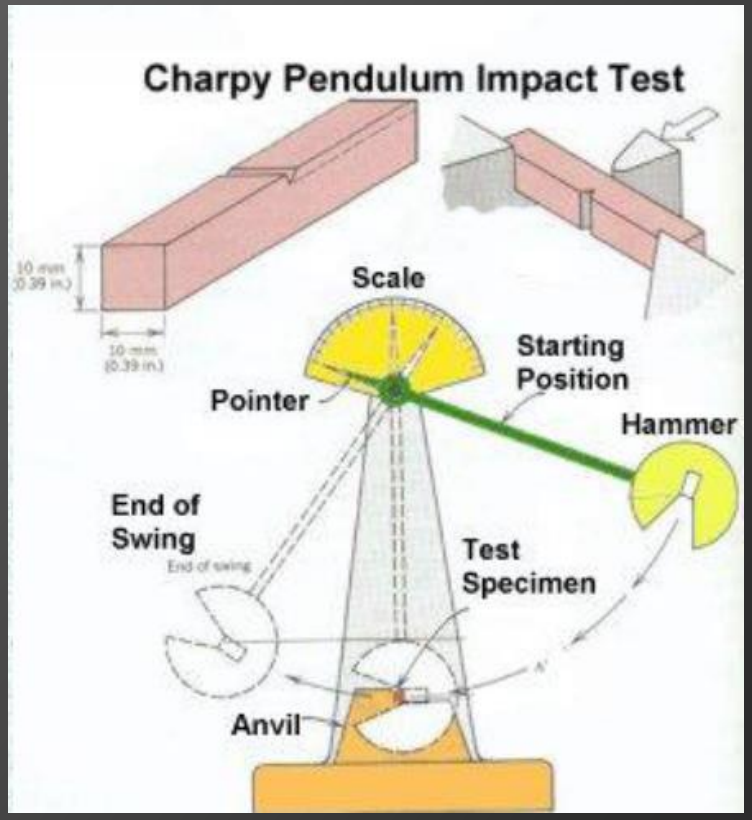
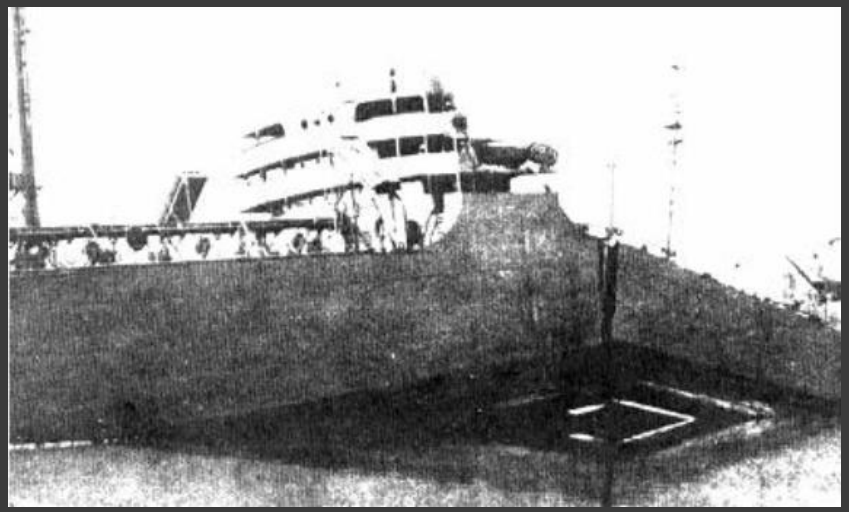
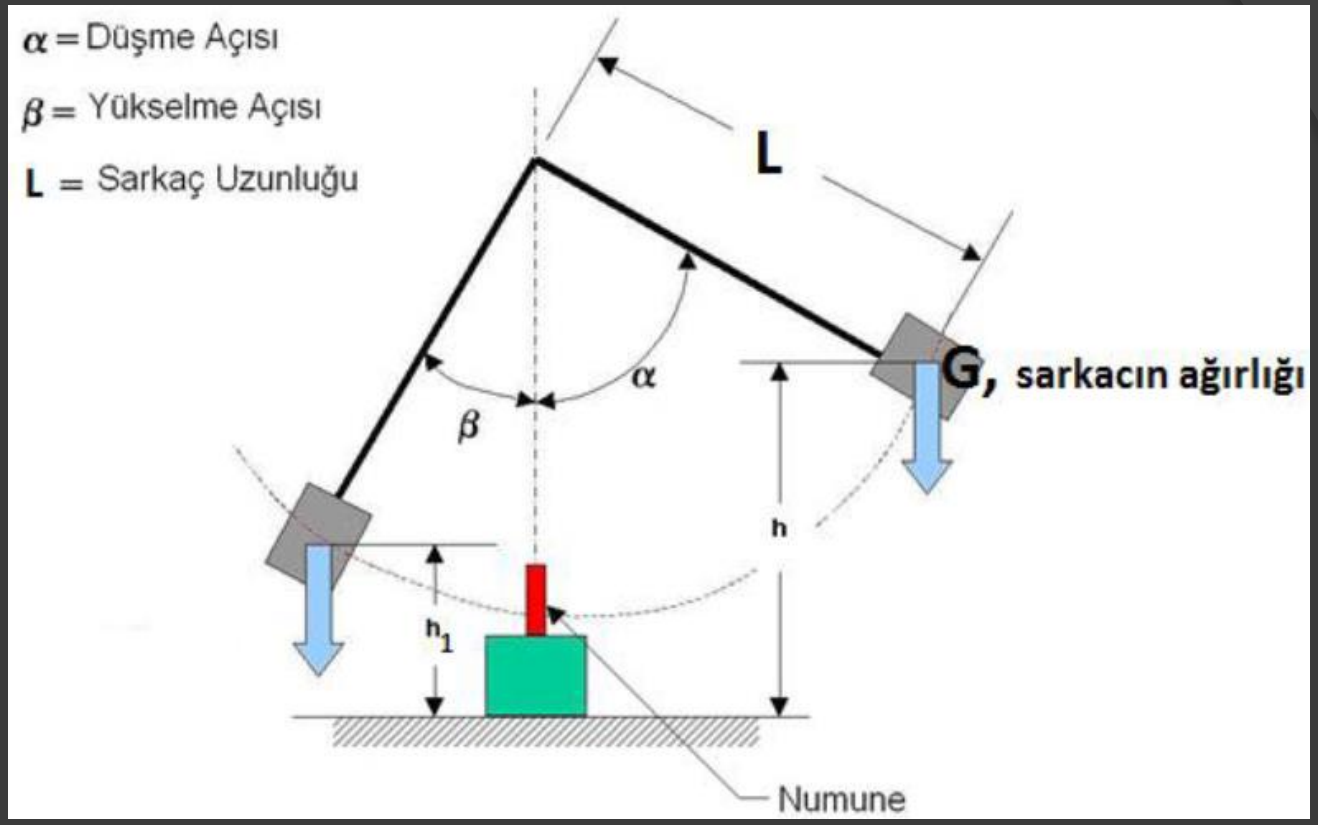
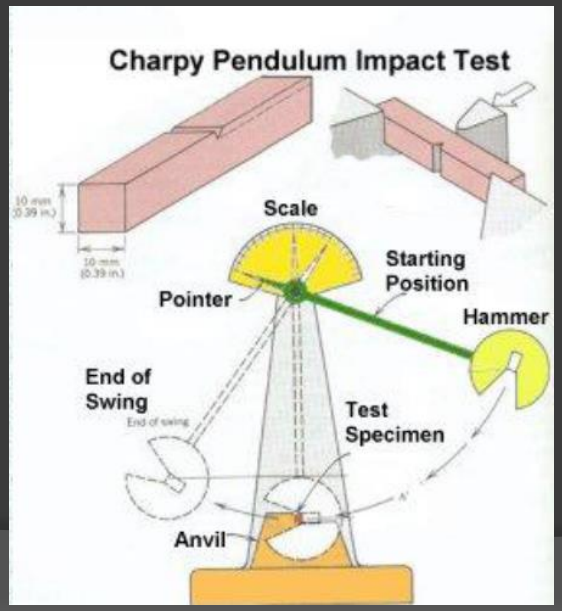
ÇENTİKLİ DARBE TESTİ









$$E = G(h - h_1) = G.L(\cos\beta - \cos\alpha)$$

G: Sarkacın ağırlığı (kg)

L: Sarkacın ağırlık merkezinin sarkacın salınım merkezine uzaklığı(m)

h: Sarkacın ağırlık merkezinin düşme yüksekliği (m)

h_1:Sarkacın ağırlık merkezinin çıkış yüksekliği (m)

α: Düşme açısı (derece)

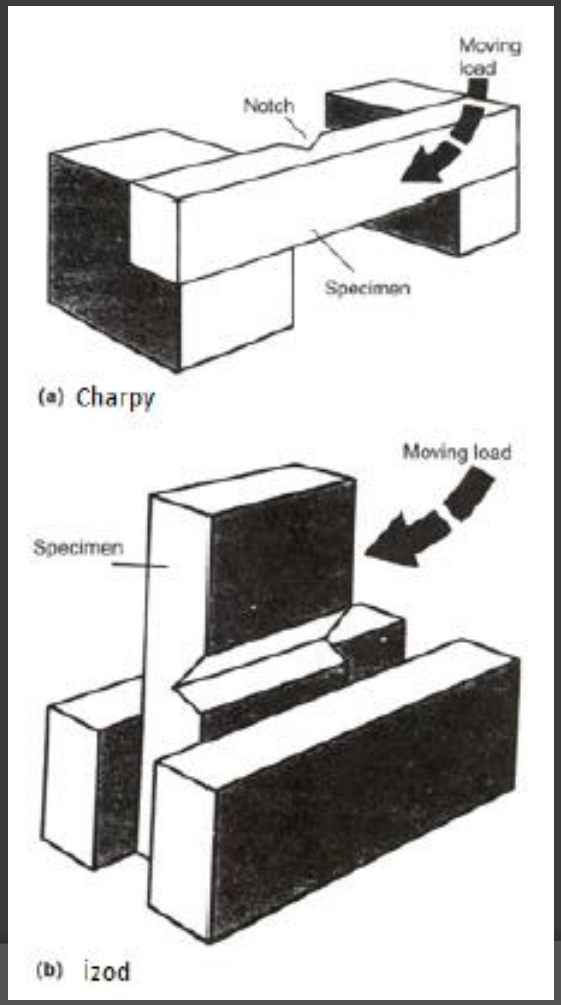
β: Yükseliş açısı (derece)

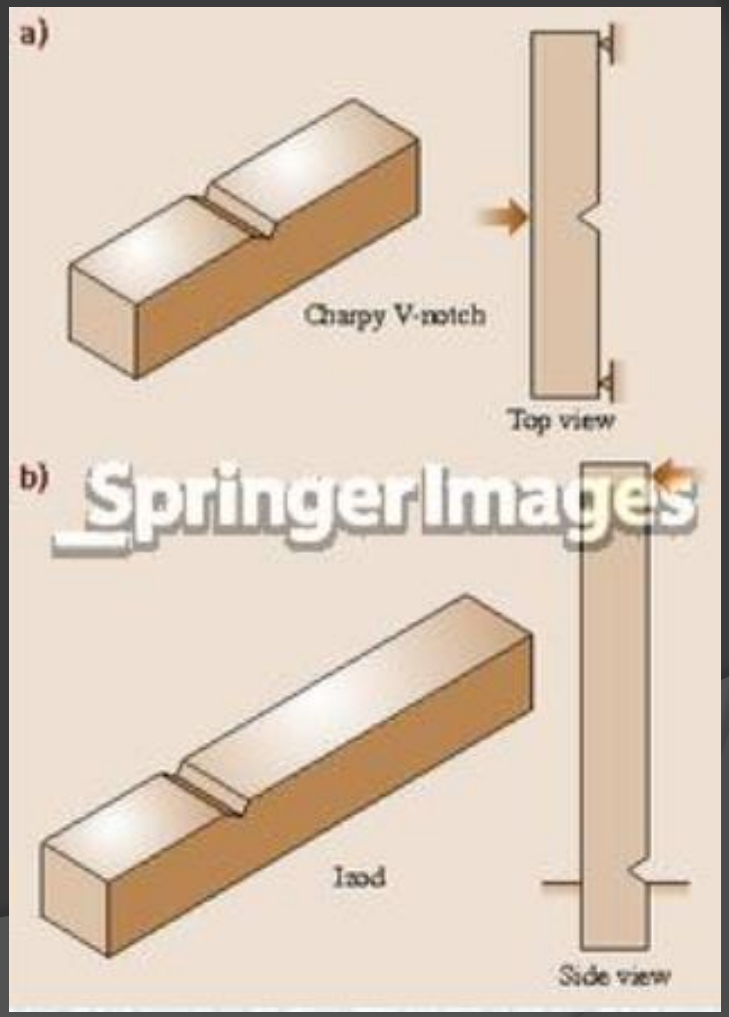
Darbe direnci kg.m yada kg.m/cm^2 olarak ifade edilir.

Çentikli darbe deneyleri genellikle 2 türde yapılmaktadır:

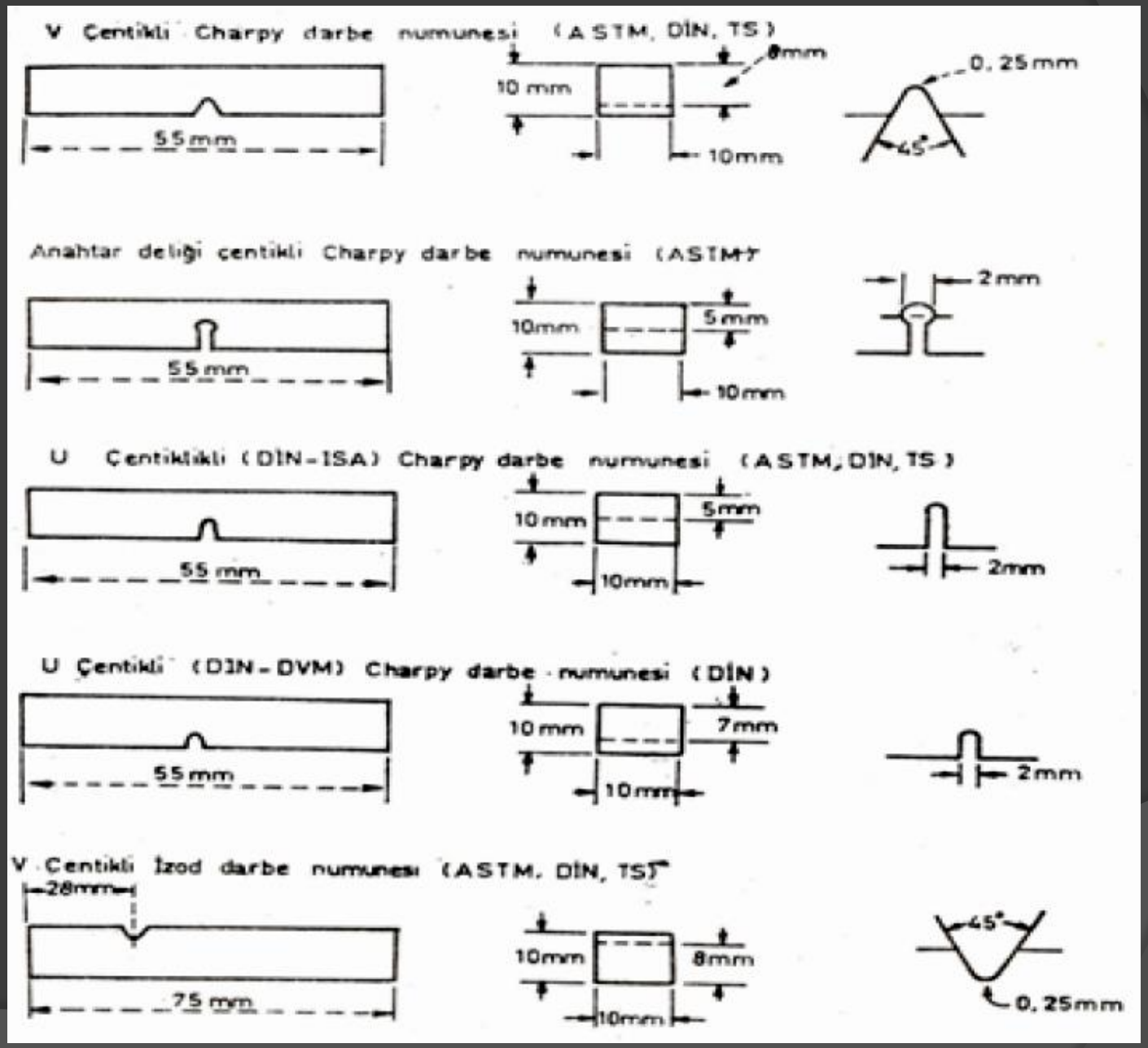
Charpy Darbe Deneyi:

İzod Darbe Deneyi:

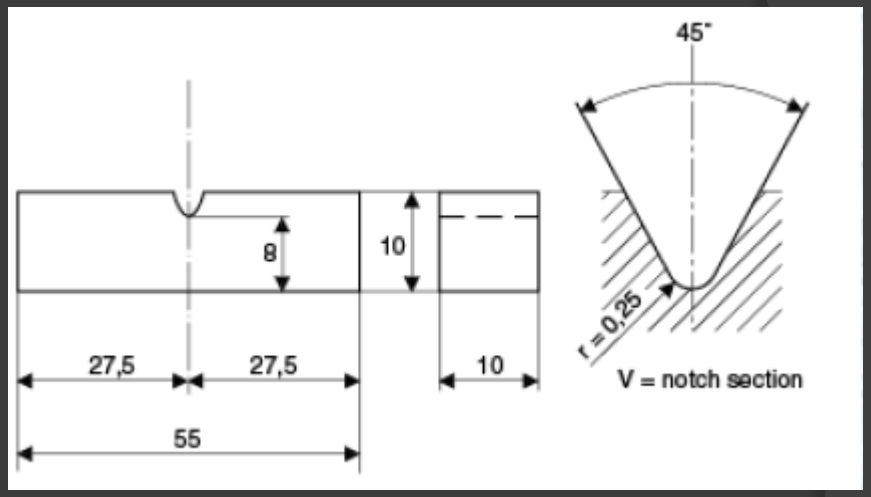


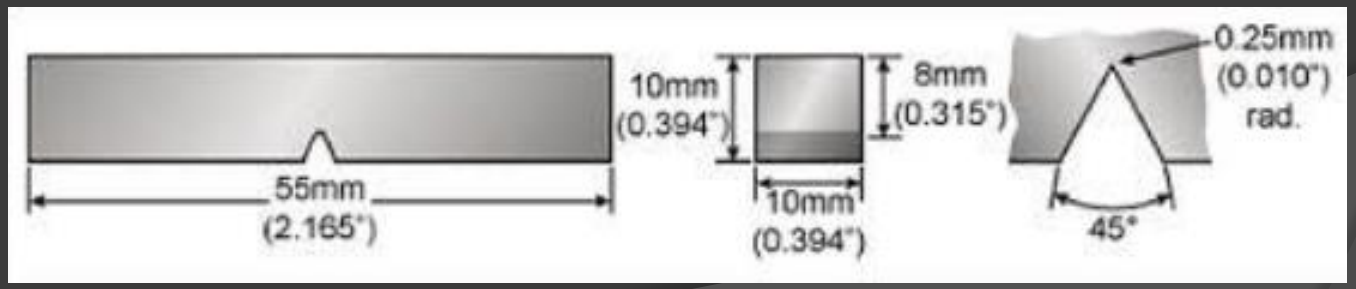


1.3.Çentikli Darbe Deneyi Numuneleri



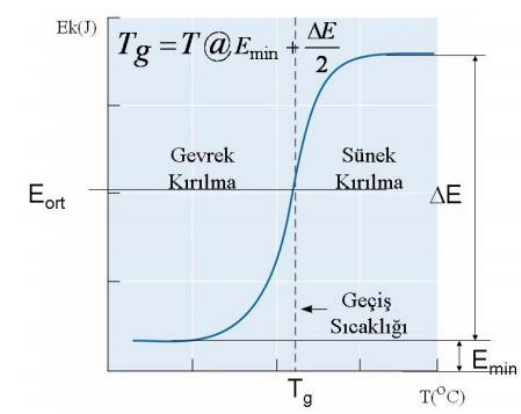
Charpy Darbe Deneyi:



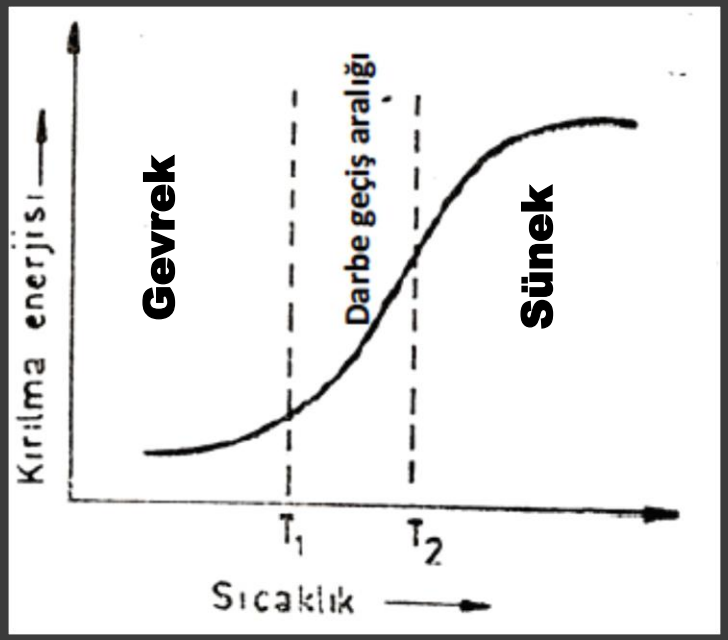


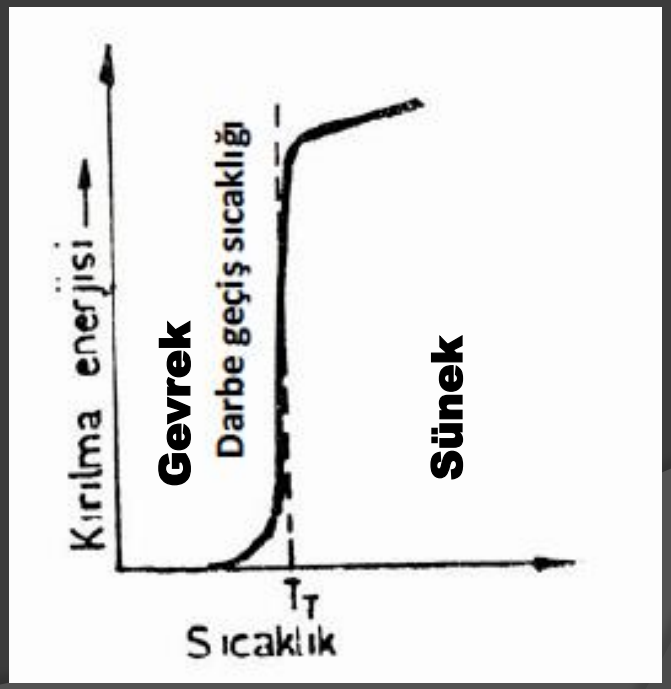
T_1 sıcaklığını belirlemek için genellikle şu üç kriterden faydalanılır:

1. ***Kırılma enerjisi.***
2. ***Kırılma yüzeyinin görünüşü.***
3. ***Kırılmadan sonra çentik tabanında oluşan enlemesine büzülme miktarı.***

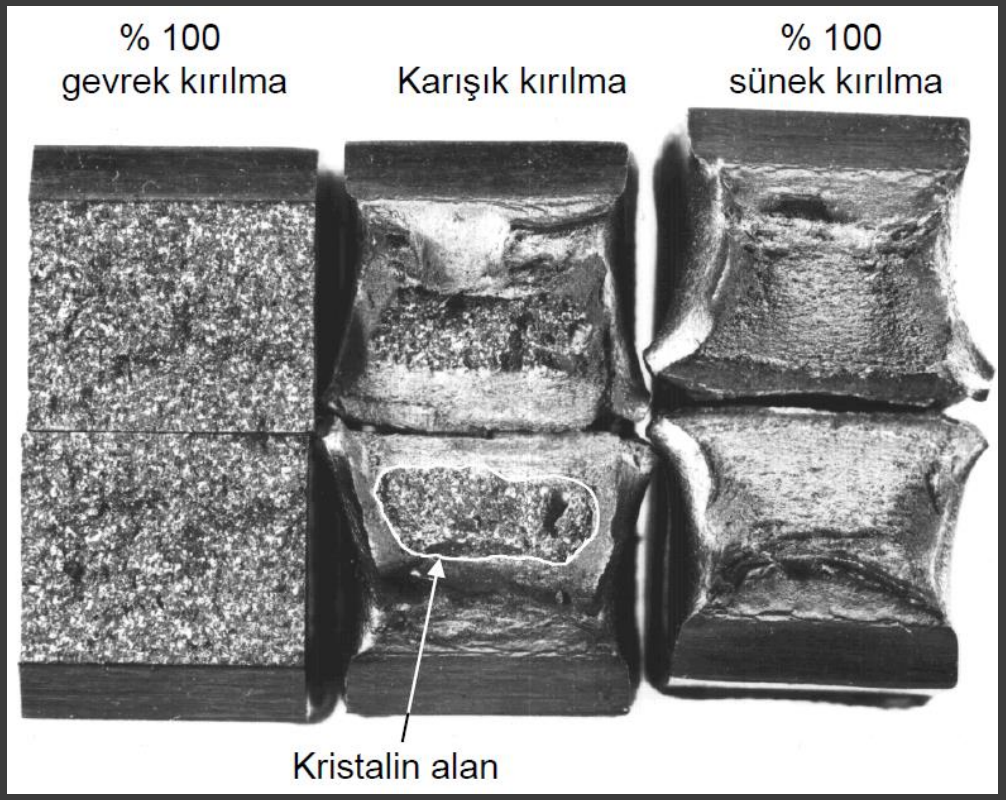


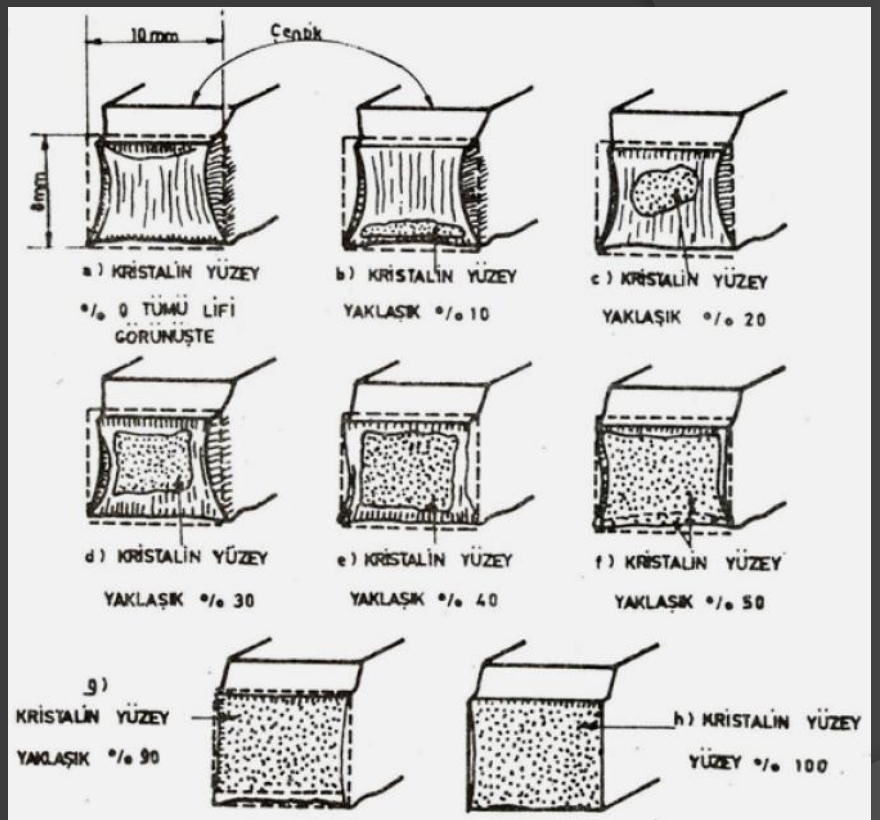
$$T_g = T@\frac{E_{max} + E_{min}}{2}$$



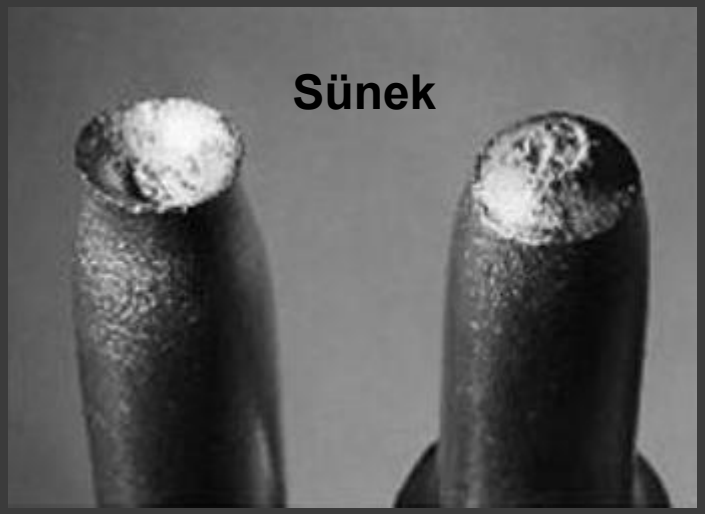


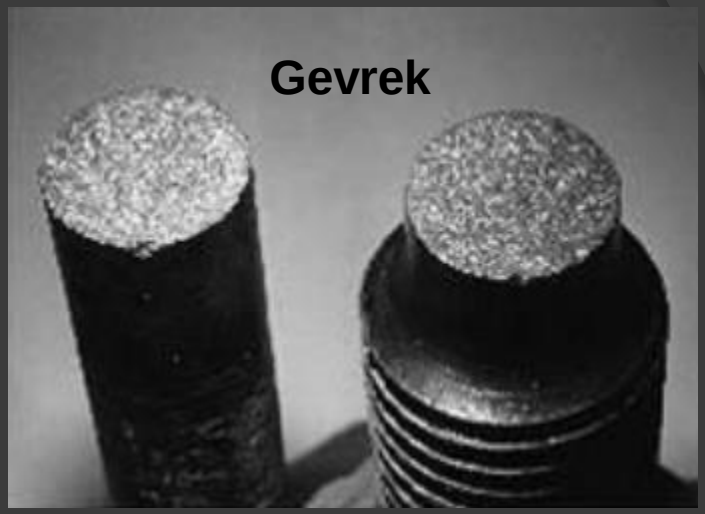
Kırılma Yüzeyinden Belirleme

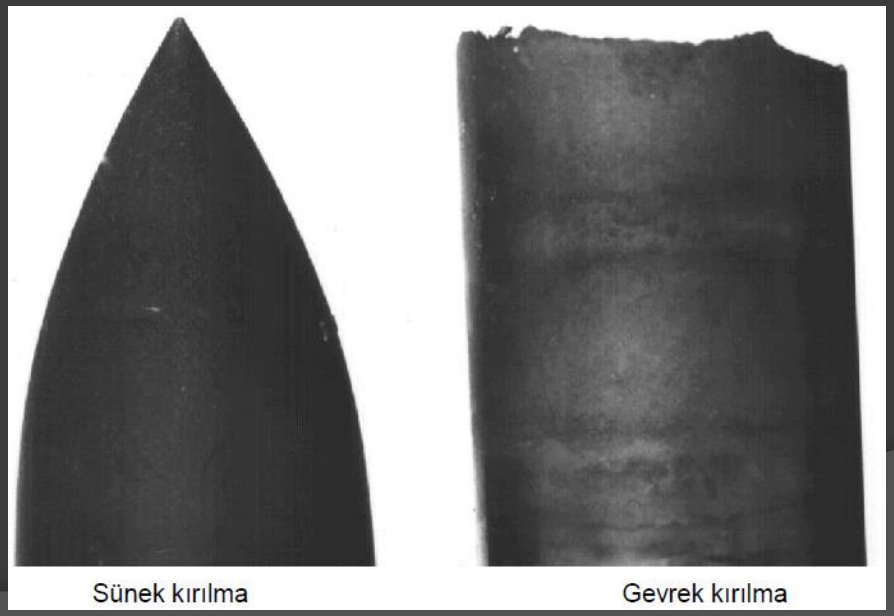




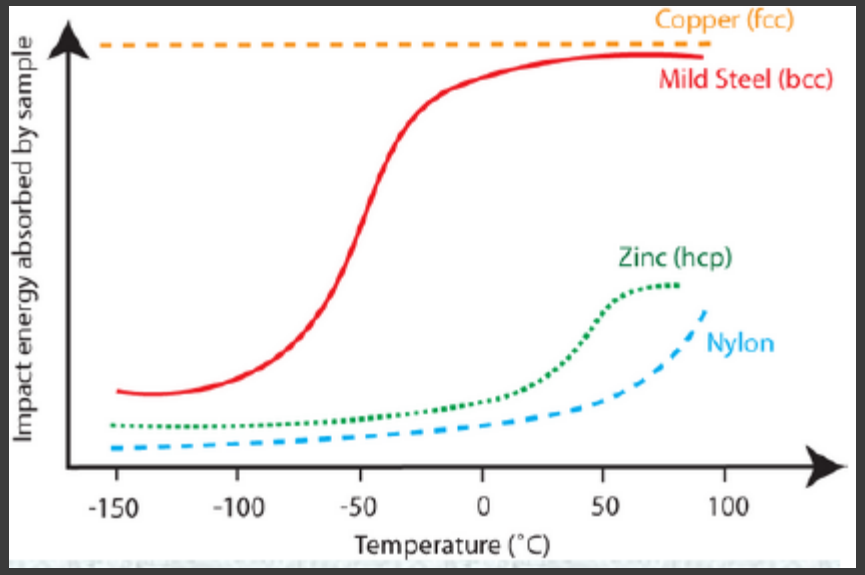
Darbe geçiş aralığında kırılma yüzeylerinin görünüşü

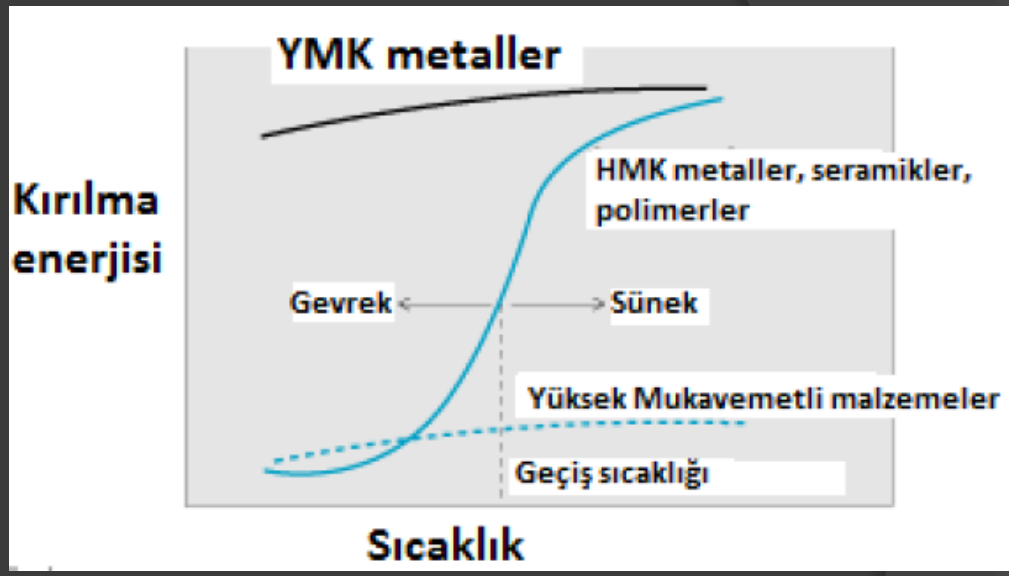

Sünek

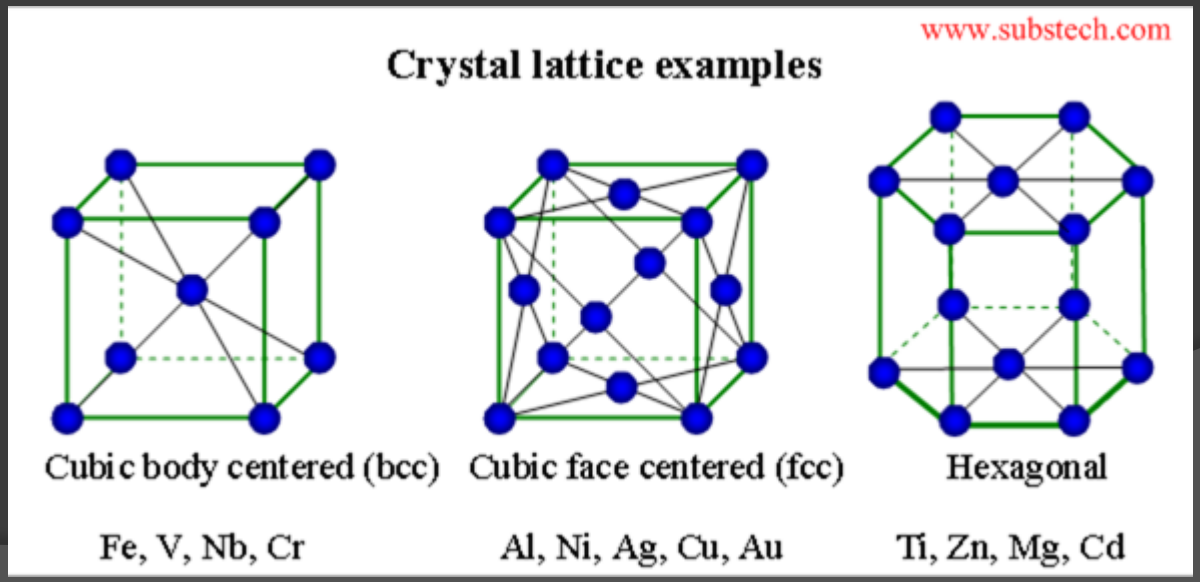

Gevrek


Sünek kırılma
Gevrek kırılma

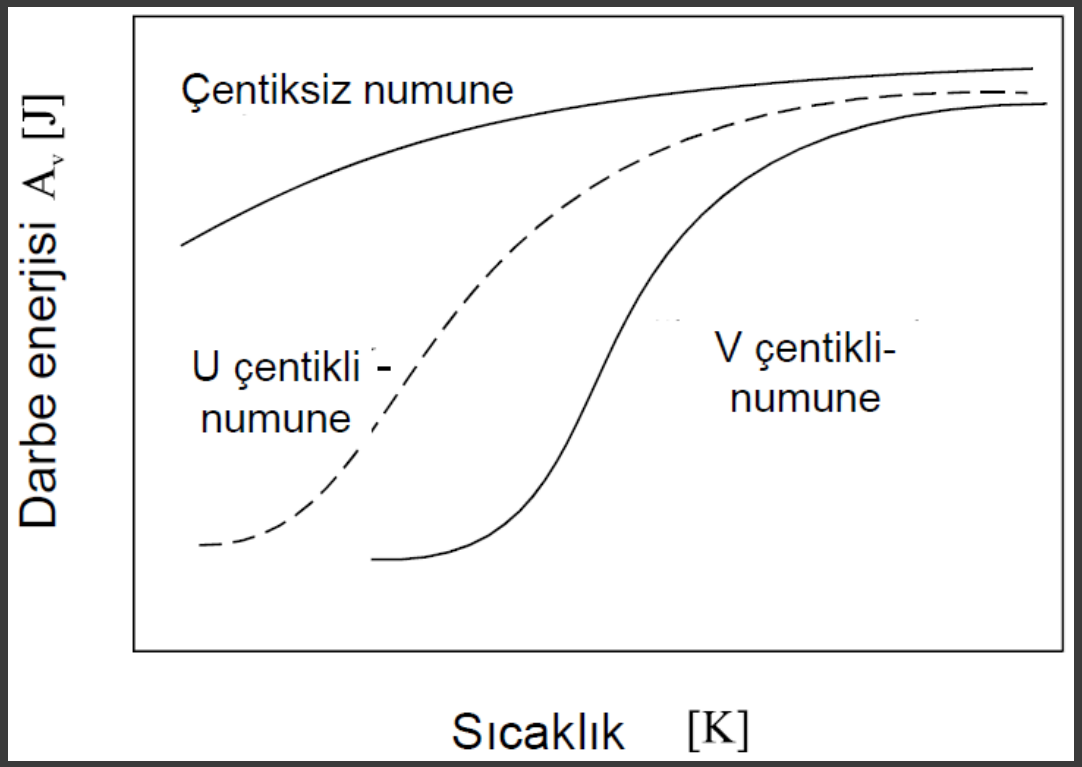
Kristal Yapıya Göre Kırılma Enerjisi

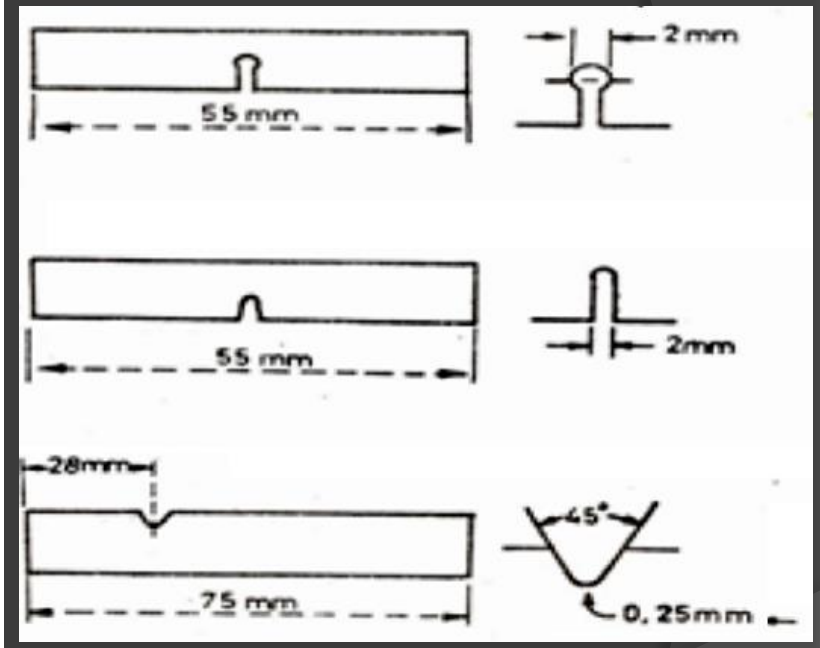




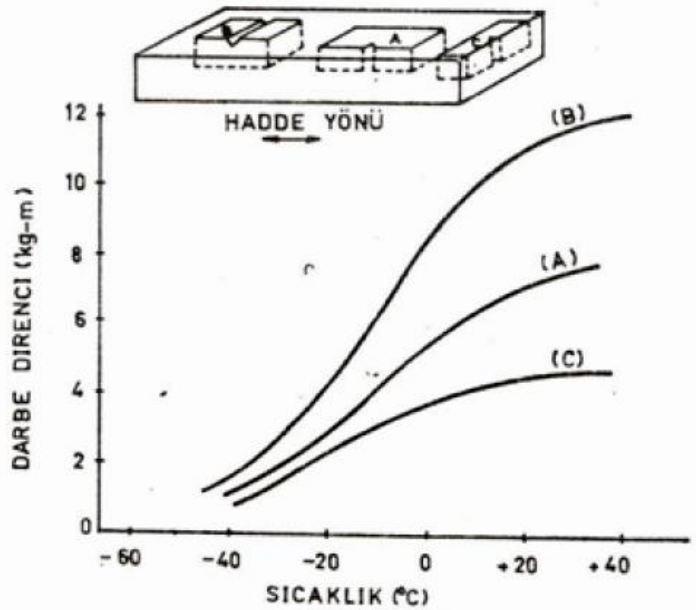


Çentik Tipine Göre Kırılma Enerjisi

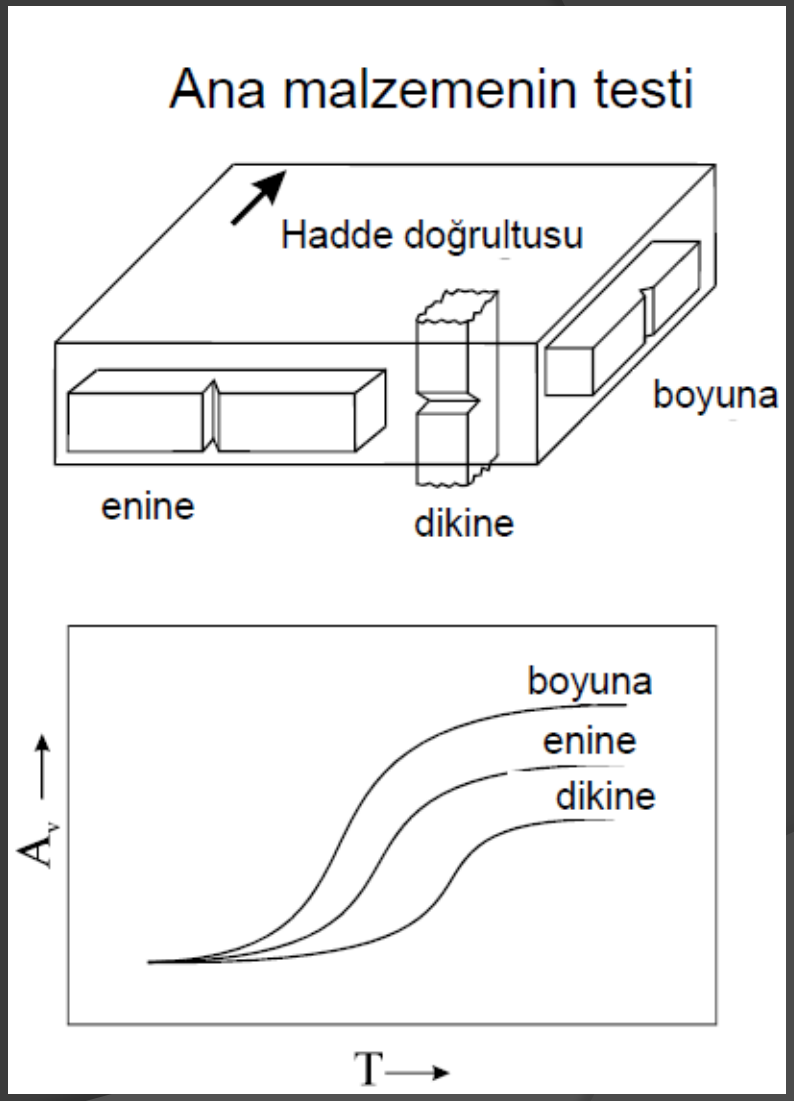




Tane Yönlenmesine Göre Kırılma Enerjisi

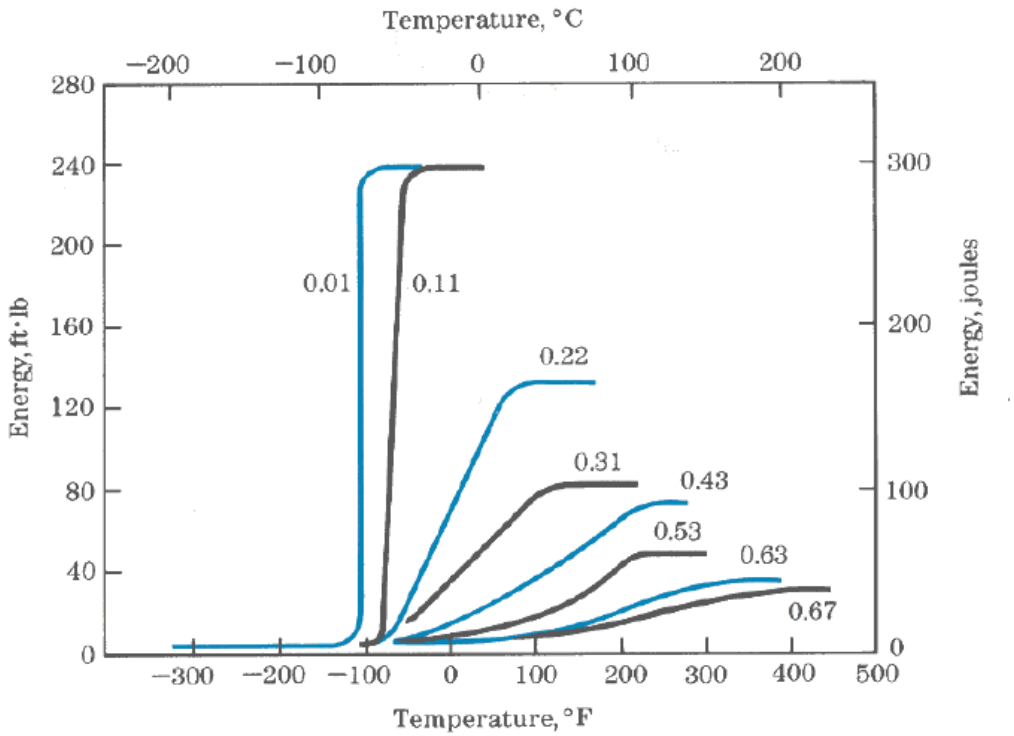


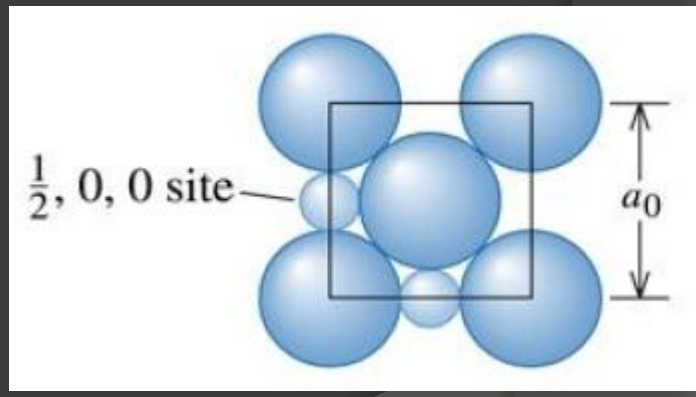
Haddelenmiş bir levhada, değişik yönlerde alınmış numunelerin kırılma enerjisi - sıcaklık eğrileri.

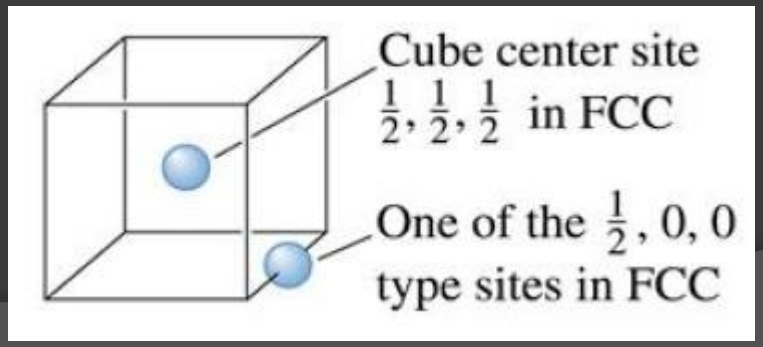


Arayer Atomun Etkisi

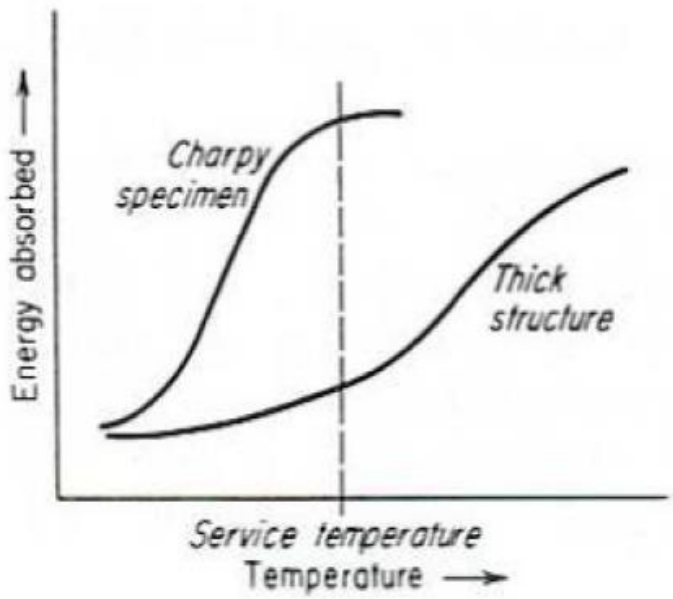
Darbe geçiş sıcaklığı üzerine karbon oranının etkisi aşağıdaki grafikte verilmiştir.



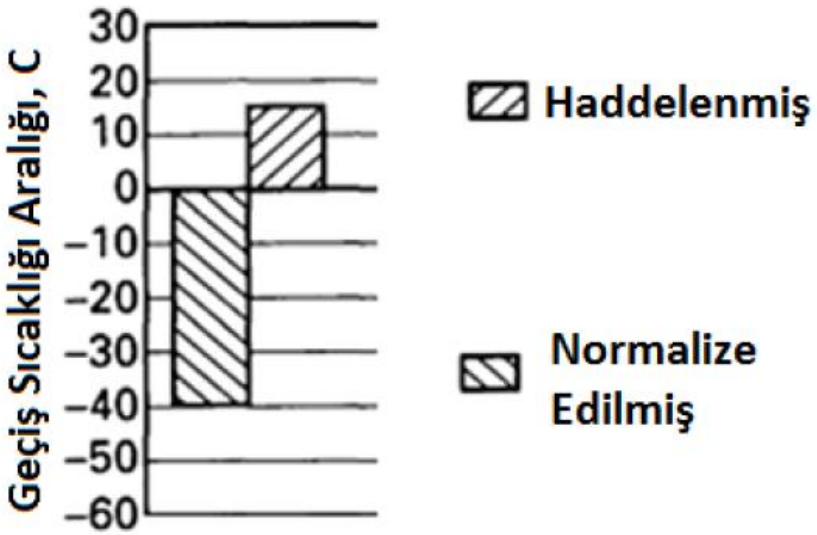
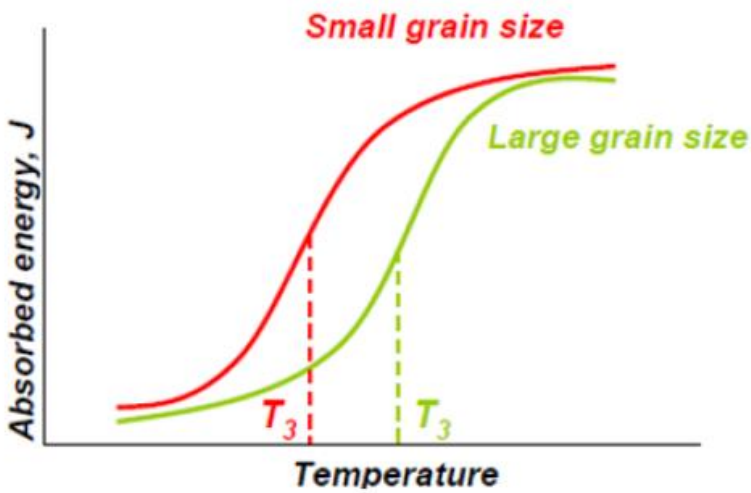




Numune Kalınlığı Etkisi



Isıl İşlem Etkisi



Tane Boyutu Etkisi