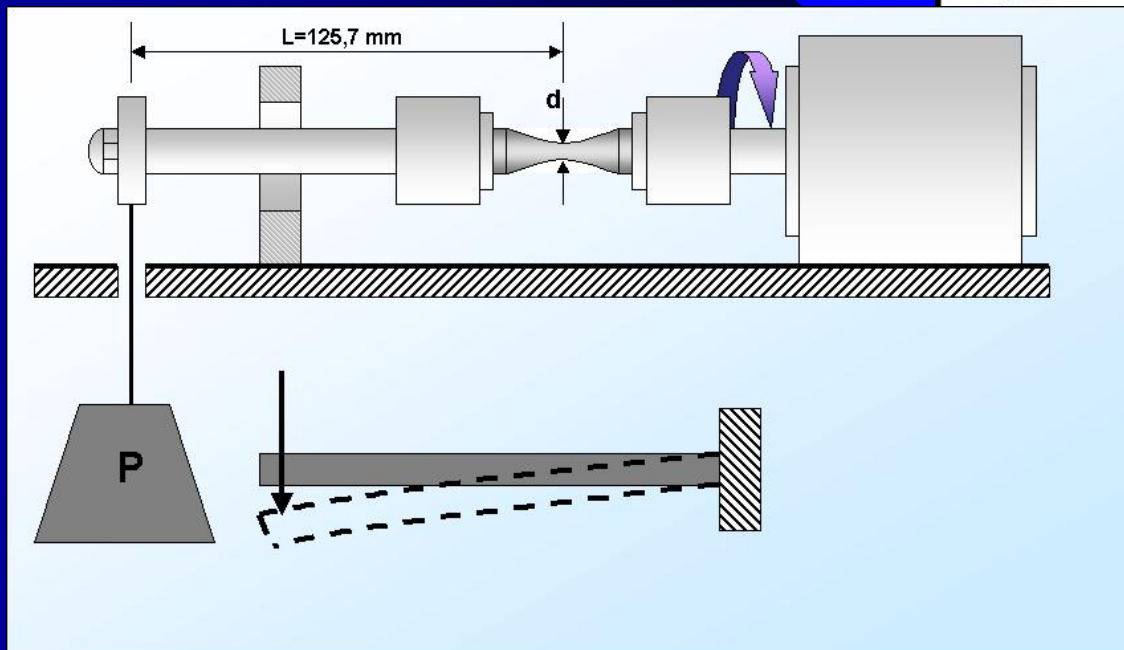
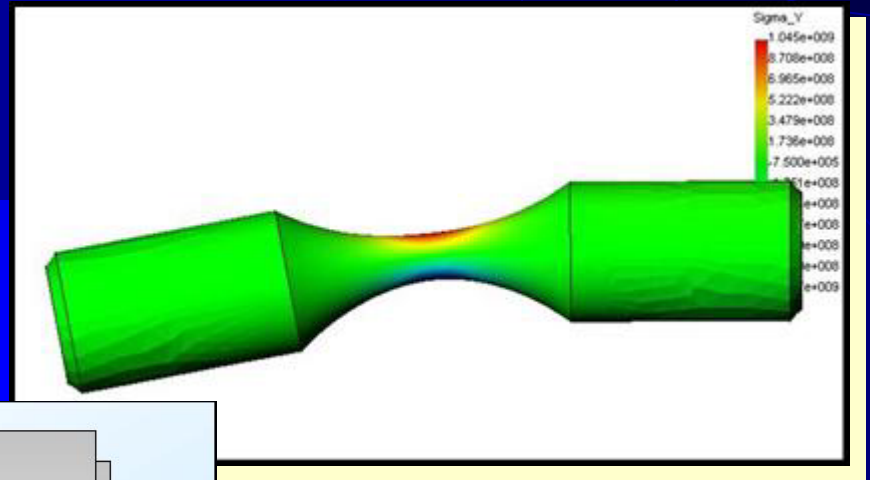
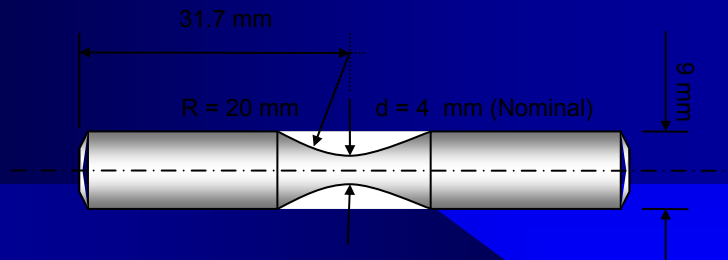


FATIGA ROTATORIA

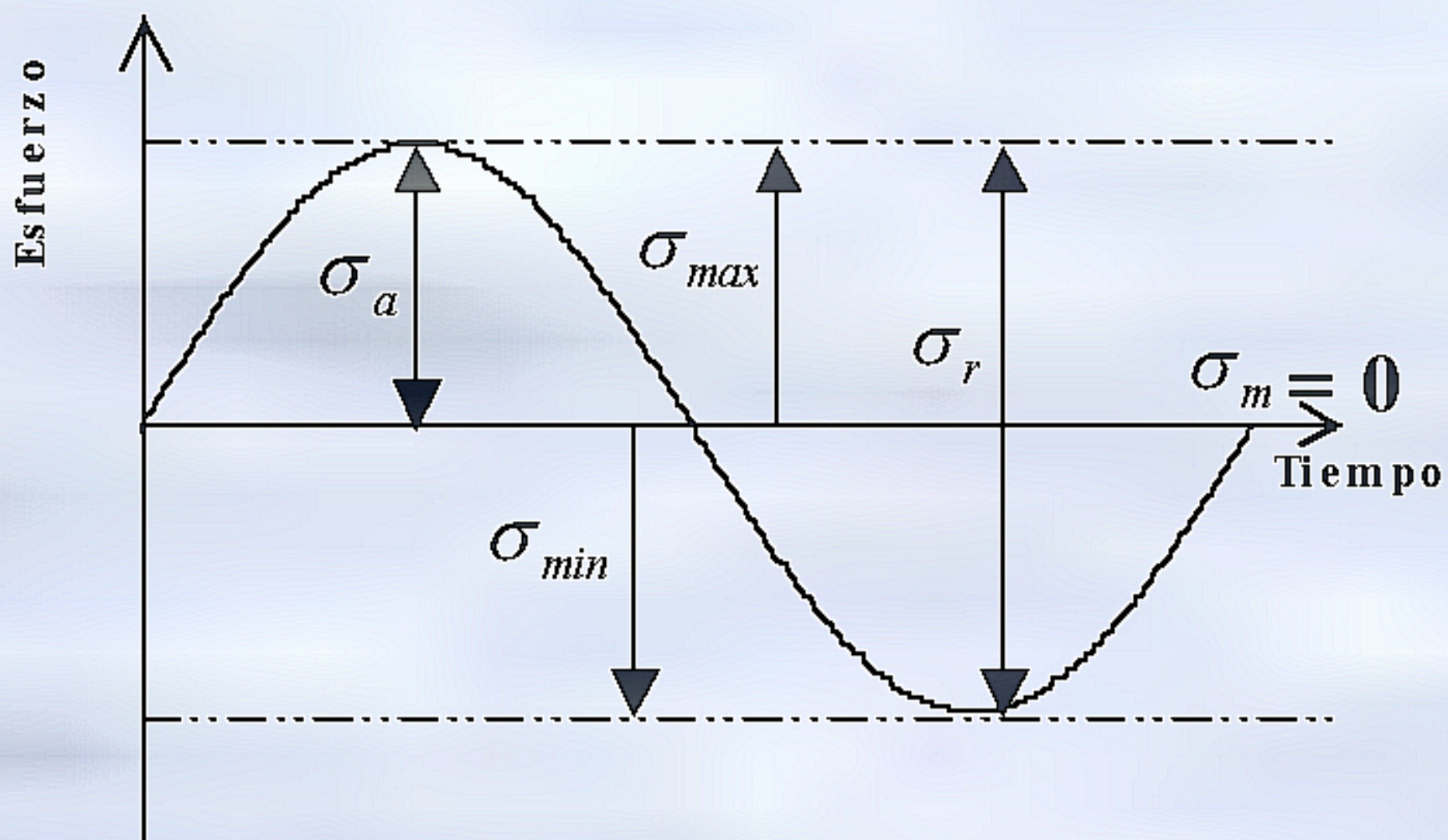
PROF. OSCAR BUSTOS

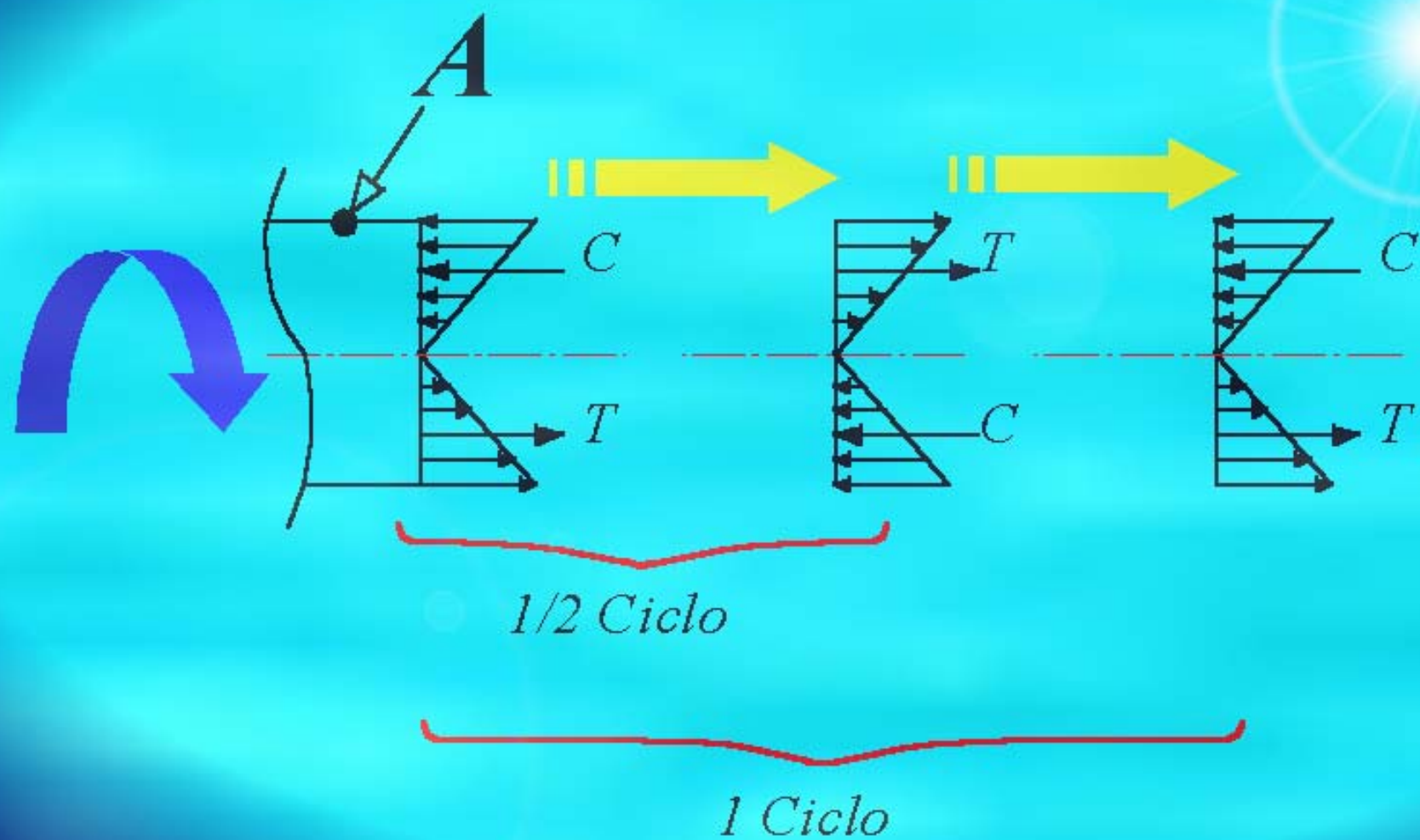
FATIGA ROTATORIA



Razón de carga $R = -1$

Esfuerzo v/s Tiempo



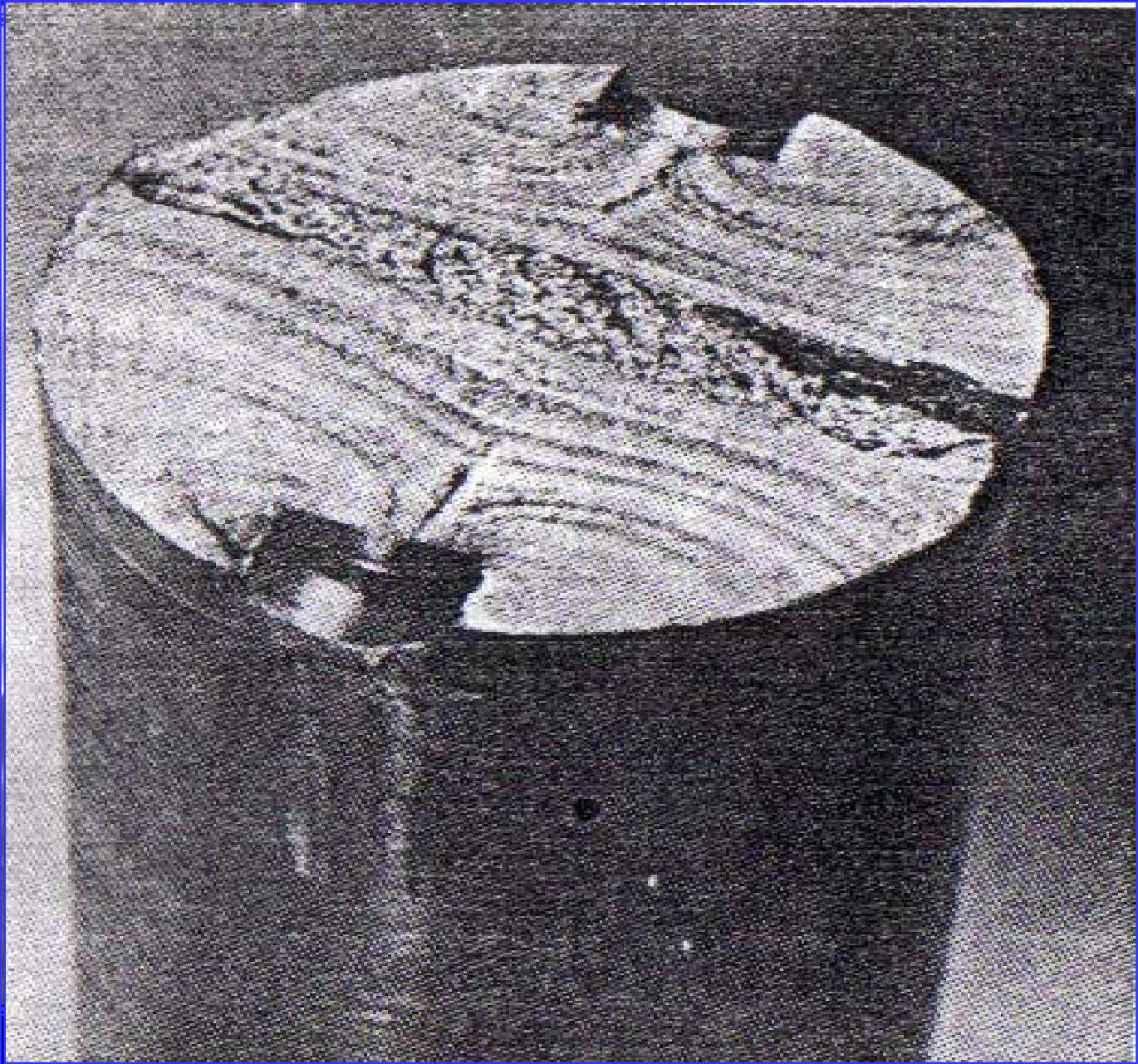


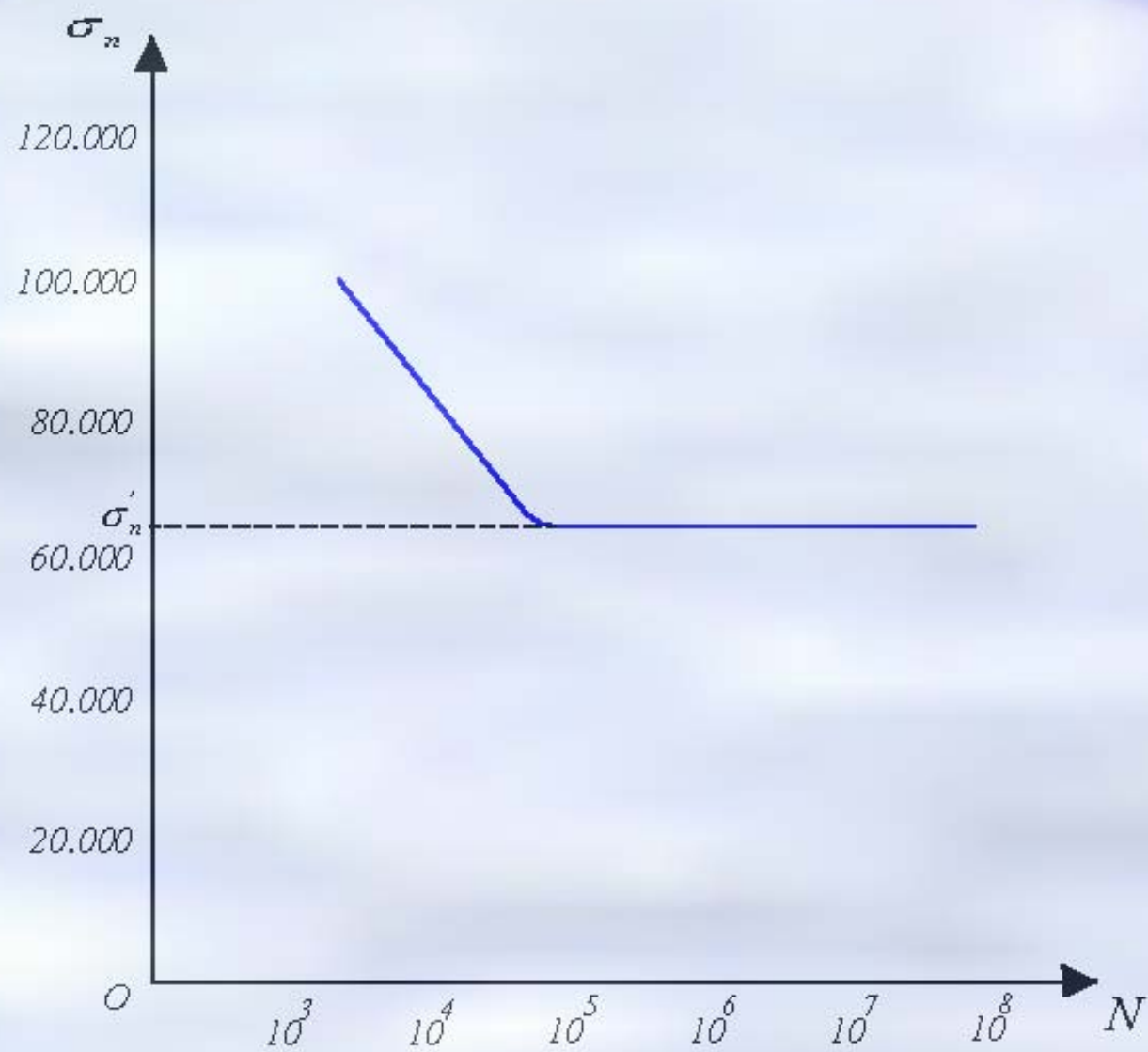
◆ *¿De q*

➤ *I*

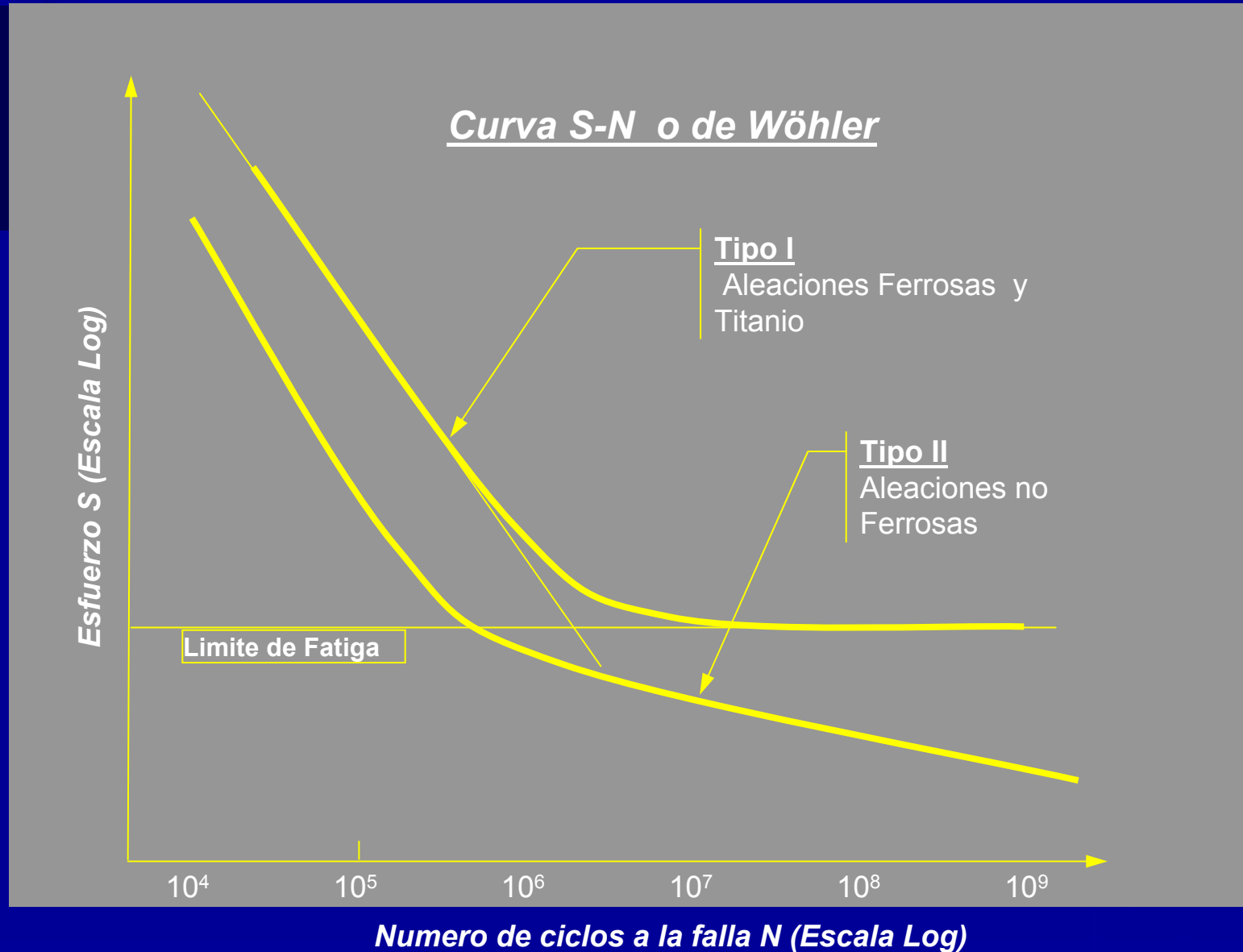
➤ *D*

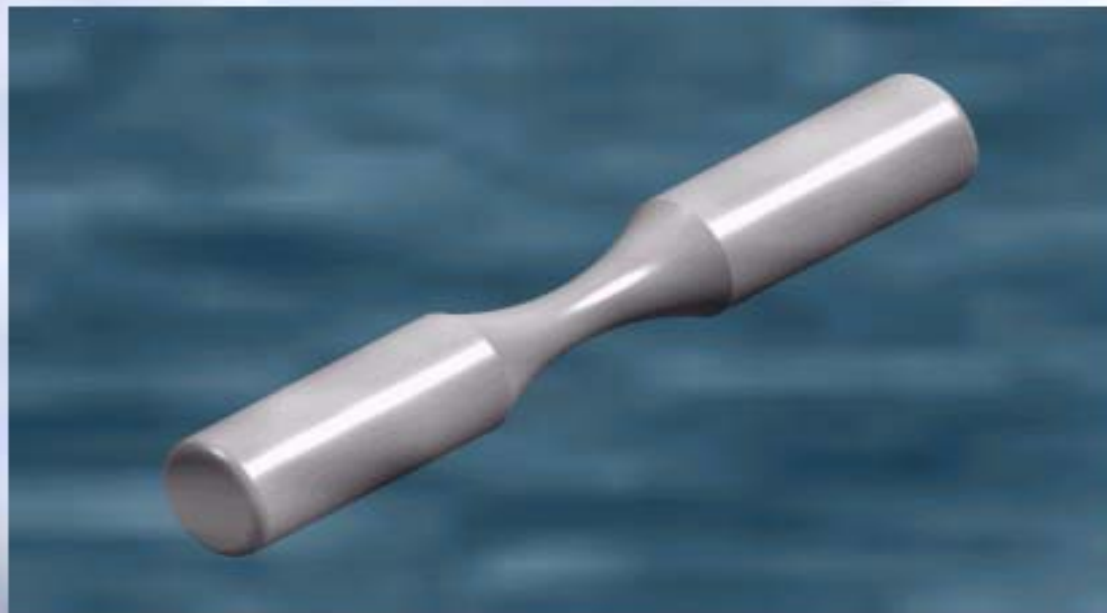
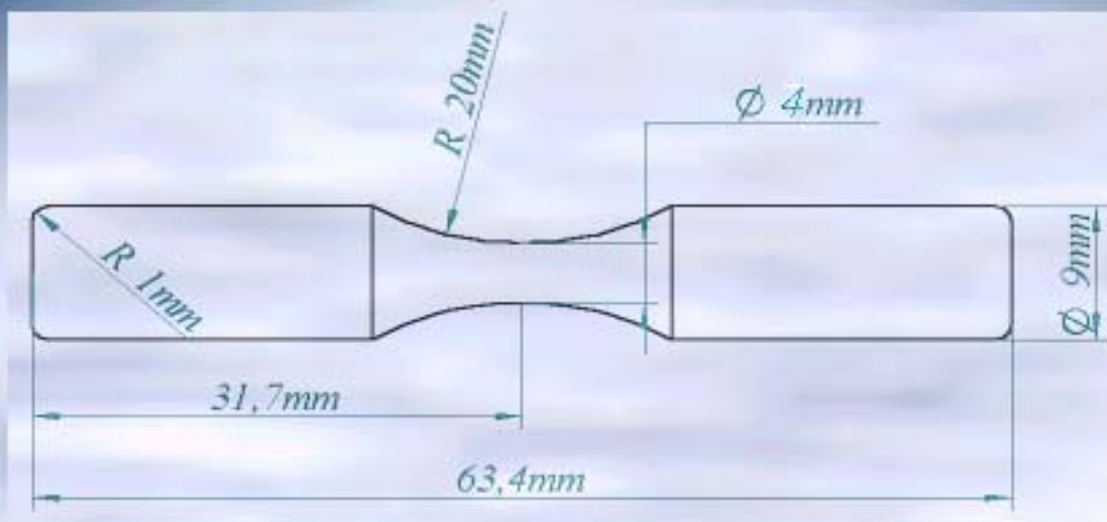
➤ *R*

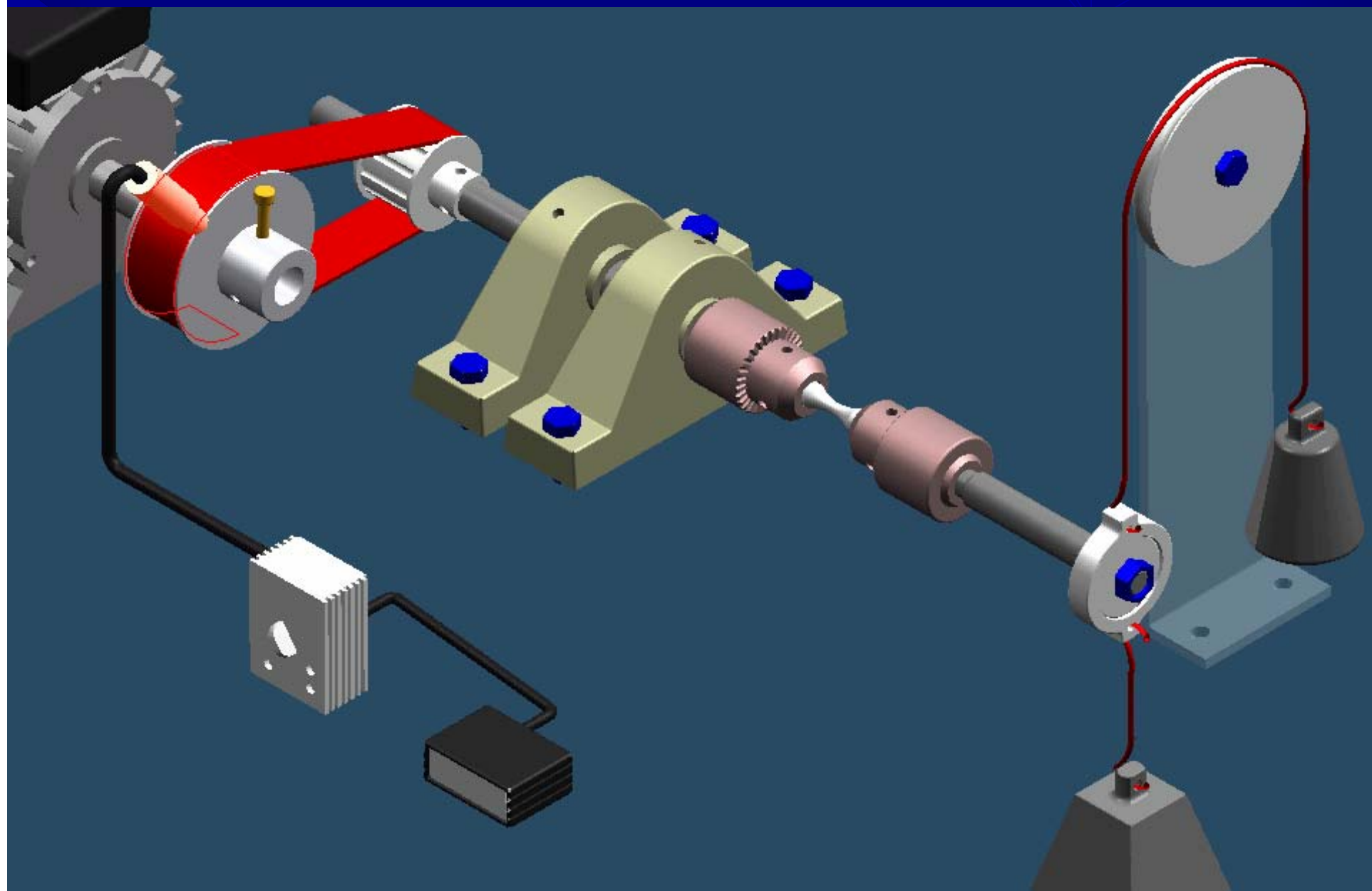




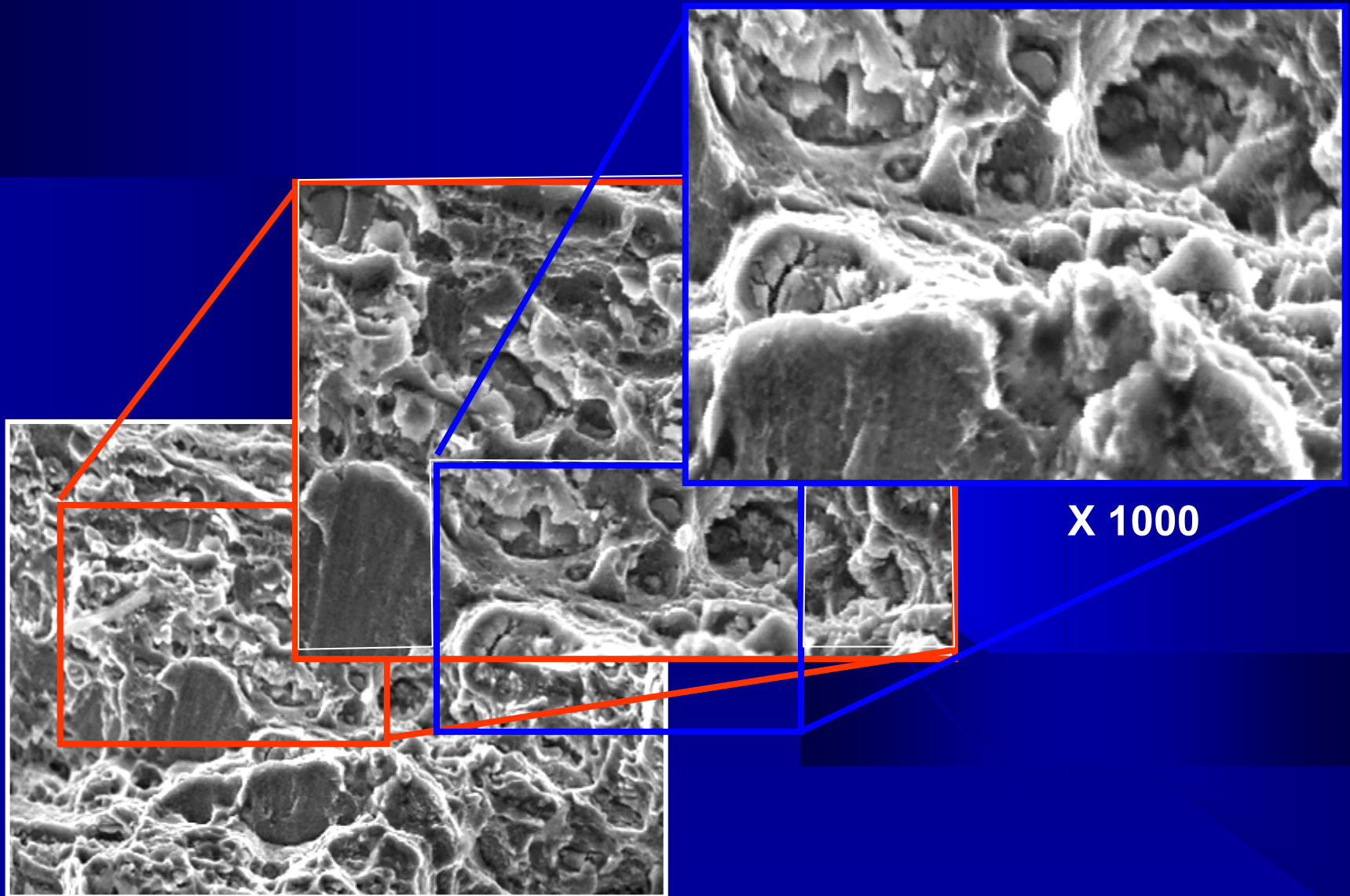
CURVAS S-N







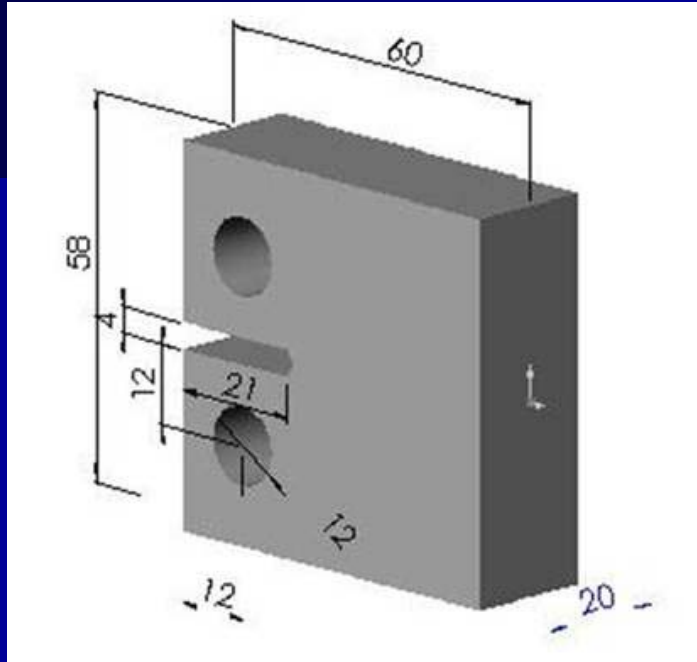
Fractografía



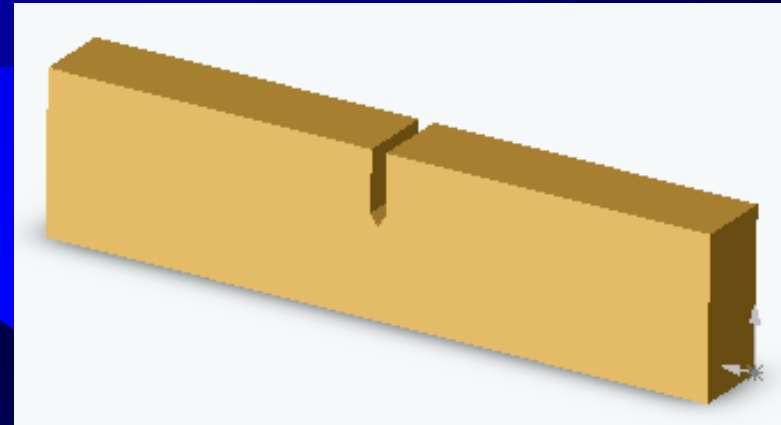
Clasificación de los procesos de fatiga



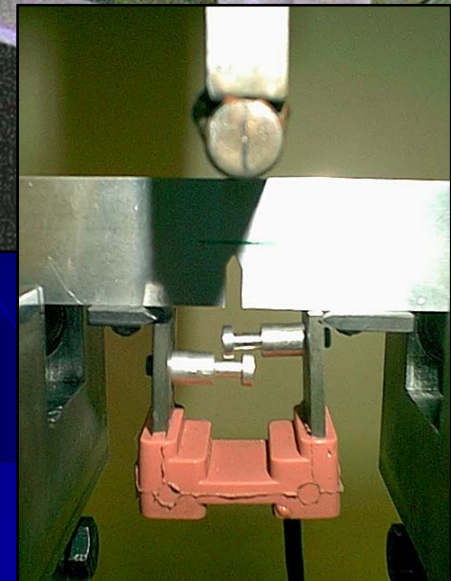
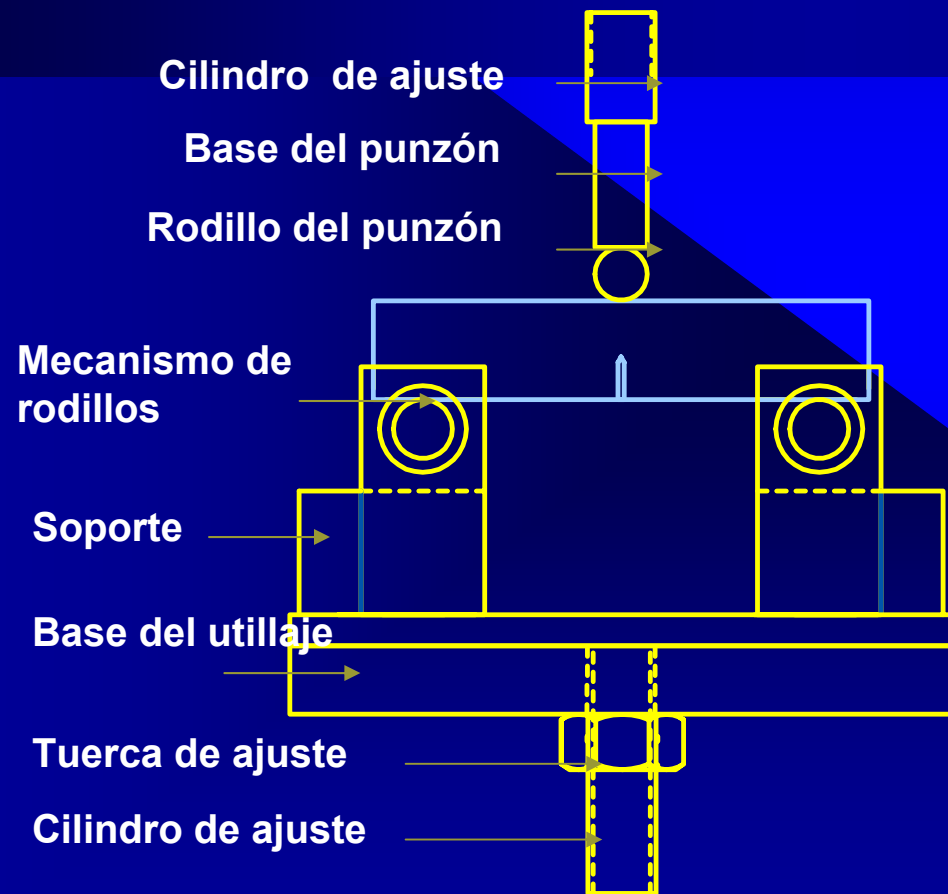
OTRAS GEOMETRÍAS



Probeta C-T



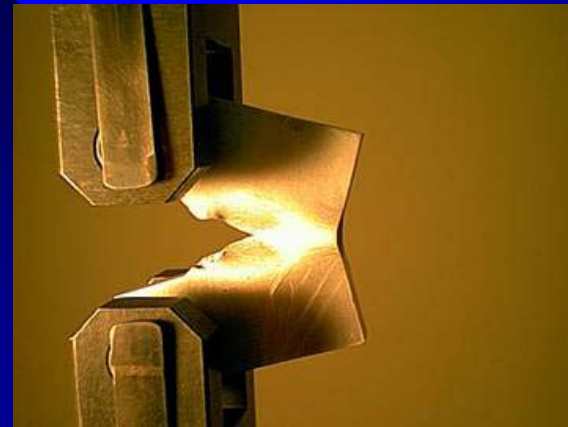
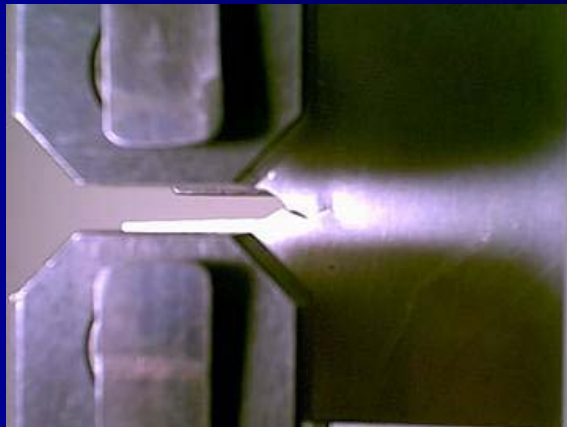
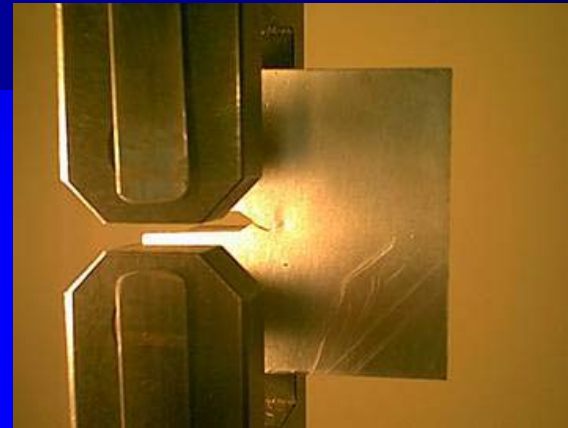
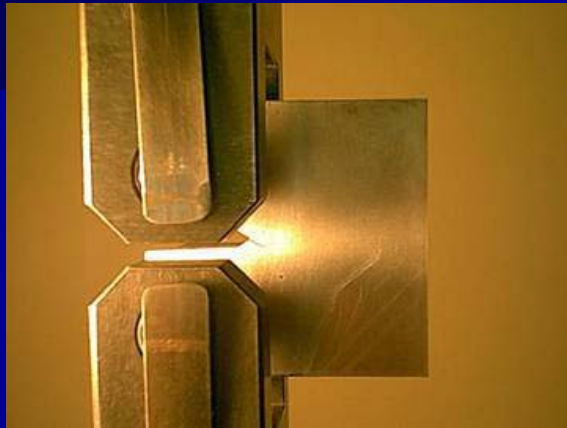
Probeta M-T



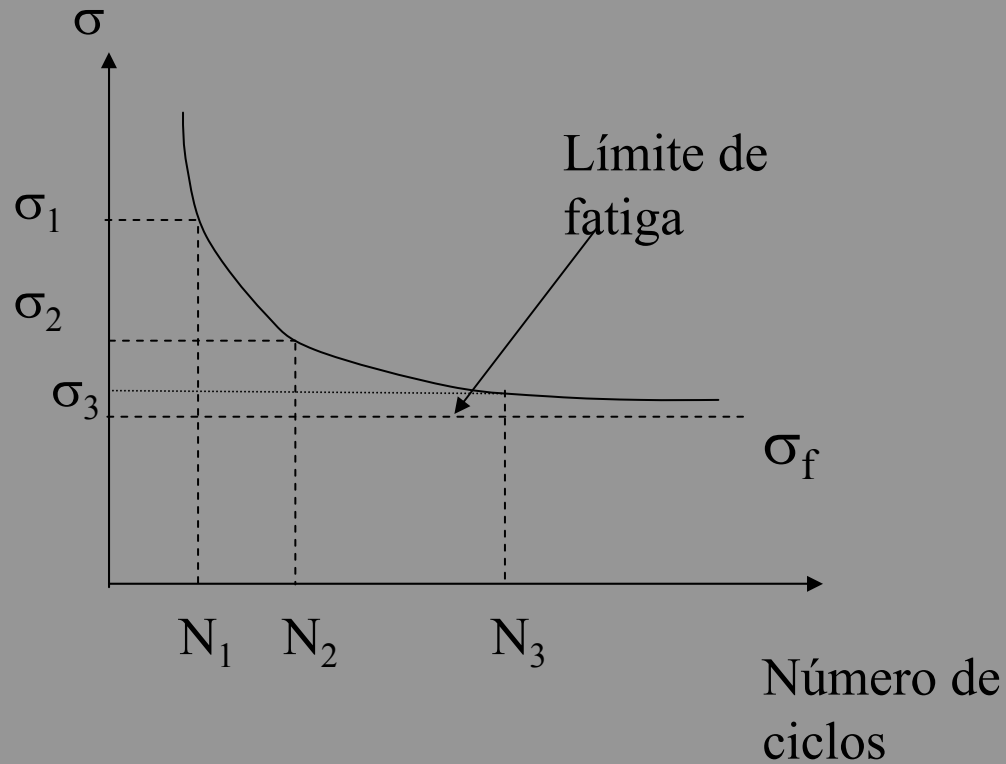
MÁQUINA DE FATIGA RESONANTE



PROBETAS DURANTE LA FATIGA



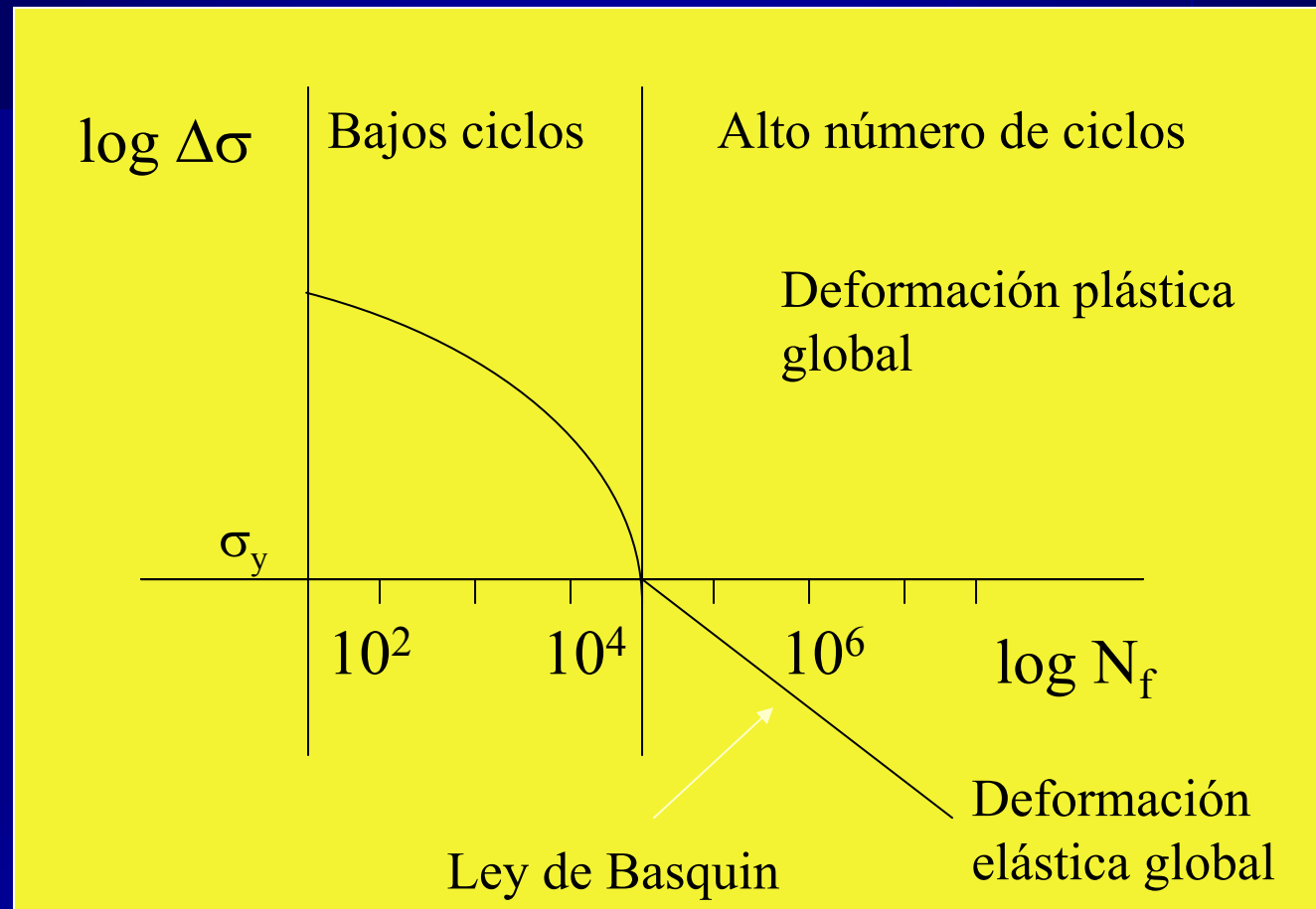
Regla de Miner



$$f_i = \frac{n_i}{N_i}$$

$$\sum_{i=1}^n f_i = 1$$

Fatiga de alto número de ciclos: ley de Basquin



Fatiga de alto número de ciclos

$$\Delta\sigma \cdot N_f^\alpha = C_1$$

$$|\sigma_{\min}| < \sigma_{ys}$$

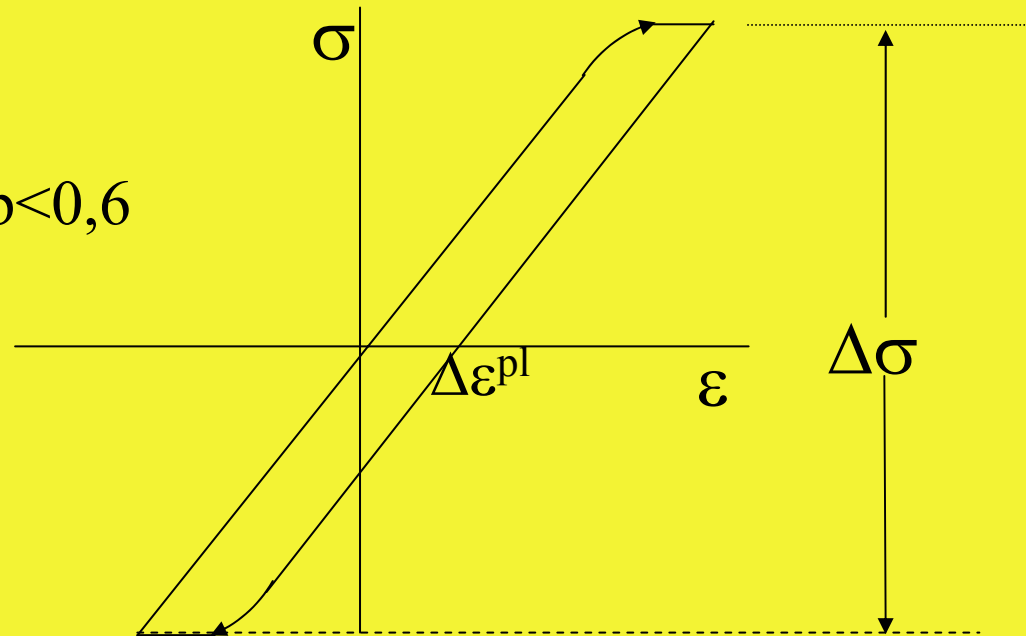
$$|\sigma_{\max}| < \sigma_{ys}$$

$$1/15 < \alpha < 1/8$$

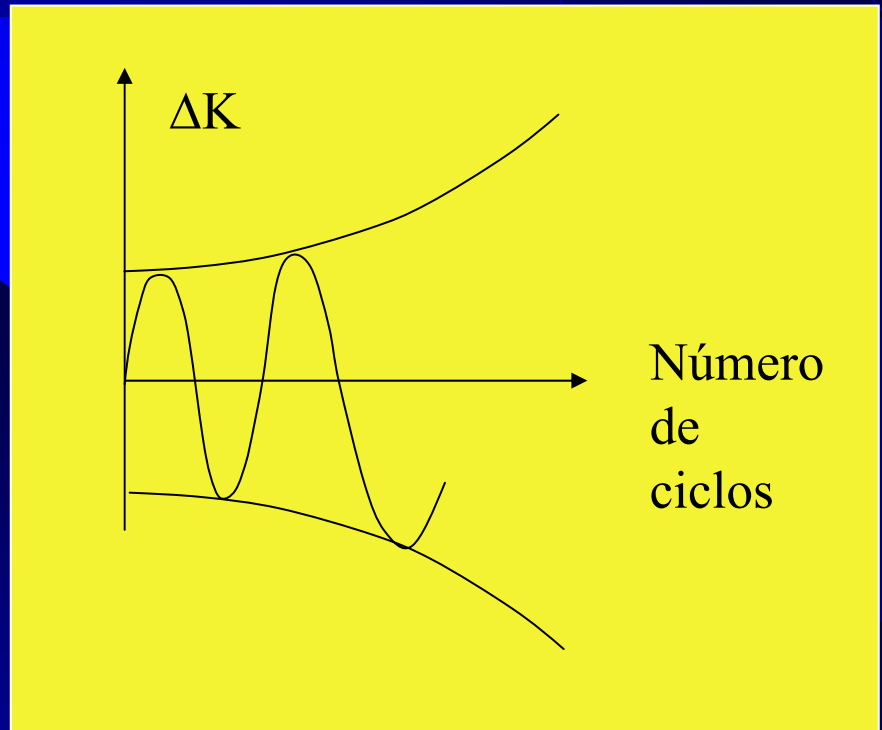
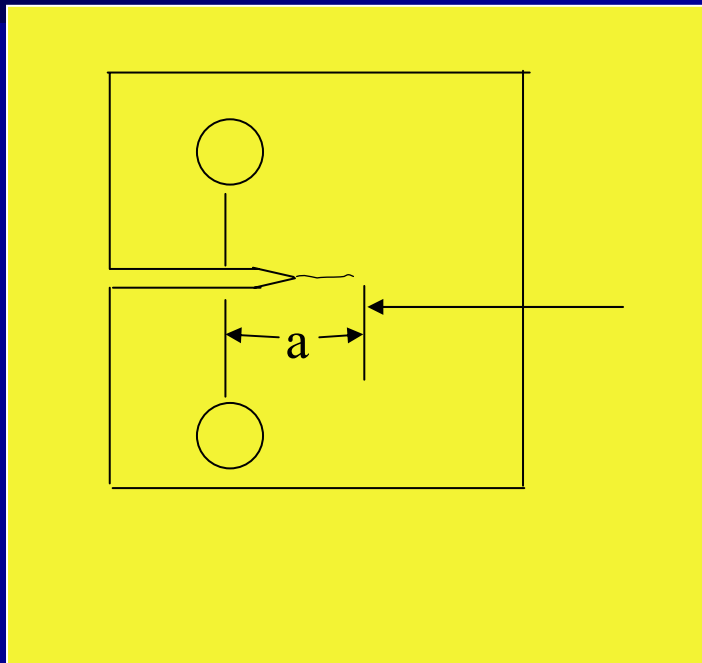
Fatiga para bajo número de ciclos : ley de Coffin-Manson

$$\Delta \varepsilon^{pl} \cdot N_f^b = C_2$$

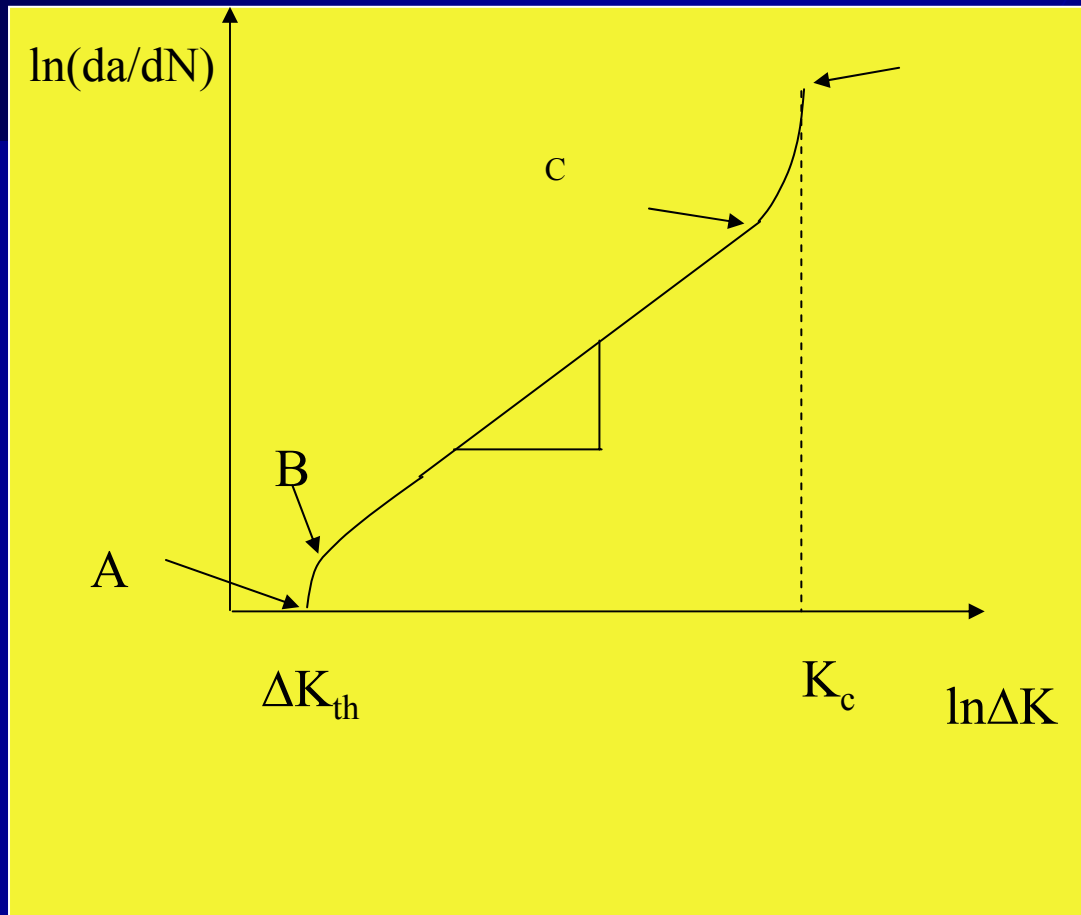
$$0,5 < b < 0,6$$



Comportamiento a fatiga de componentes pre agrietados



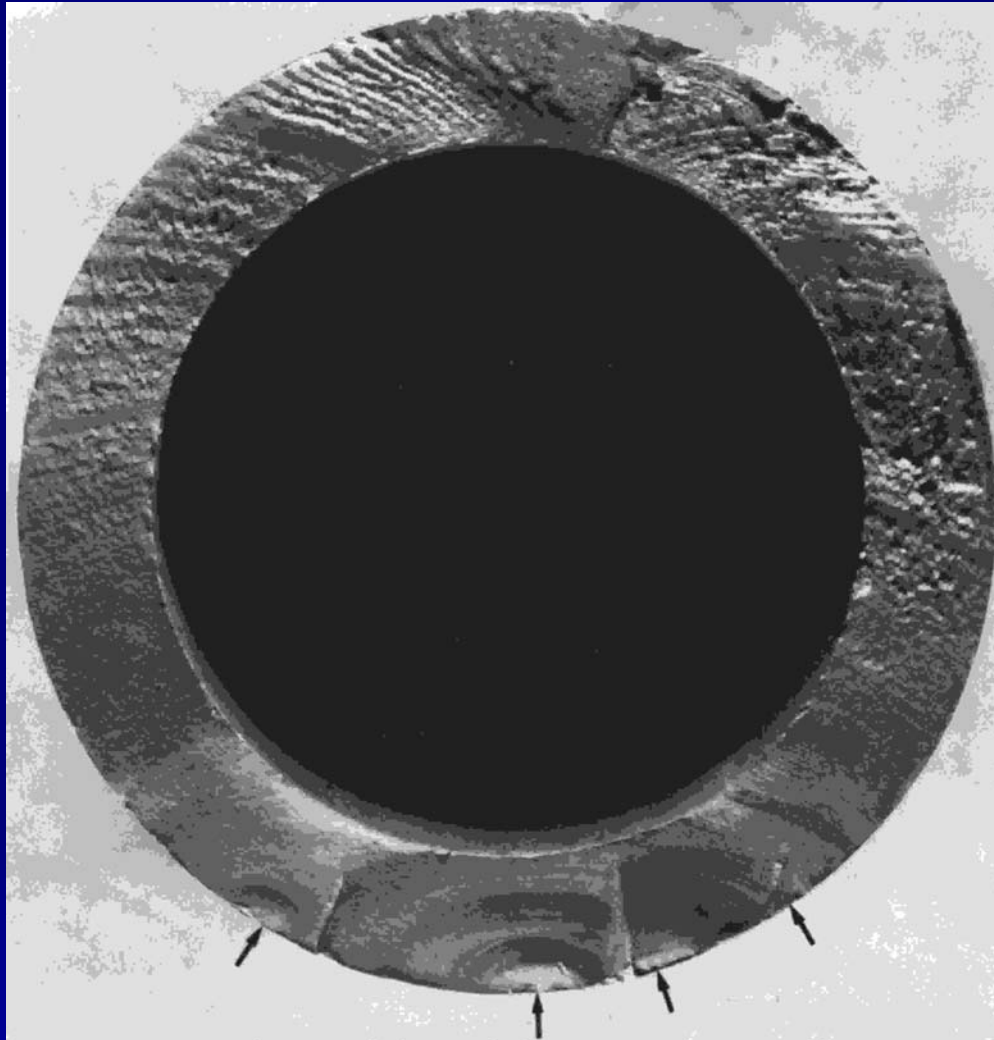
Curva de Paris



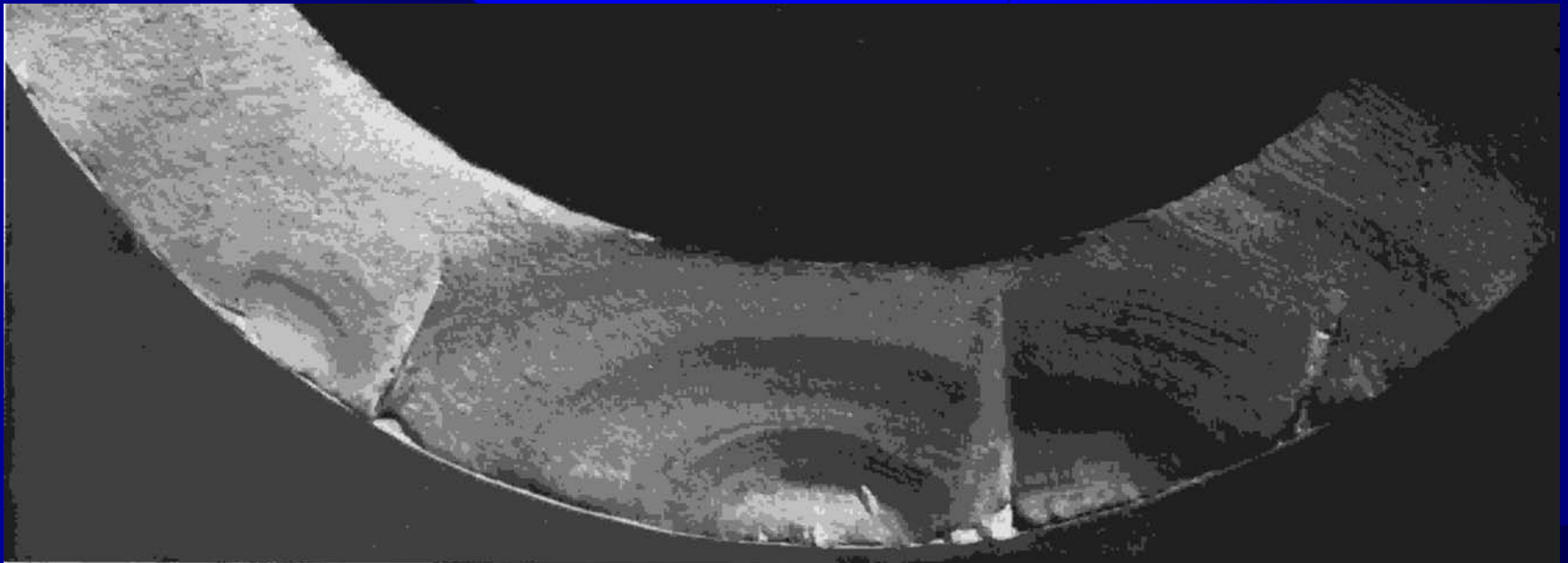
$$\frac{da}{dN} = A\Delta K^n$$

$$\int_{a_0}^{a_c} da = \int_0^N A\Delta K^n dN$$

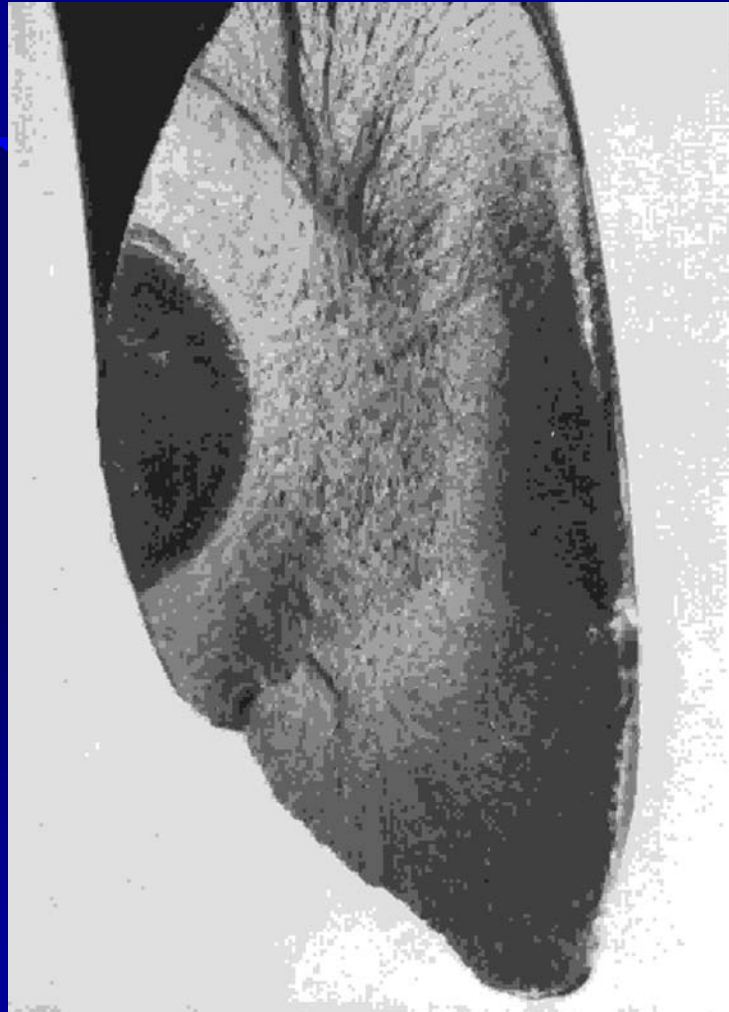
EJE FATIGADO



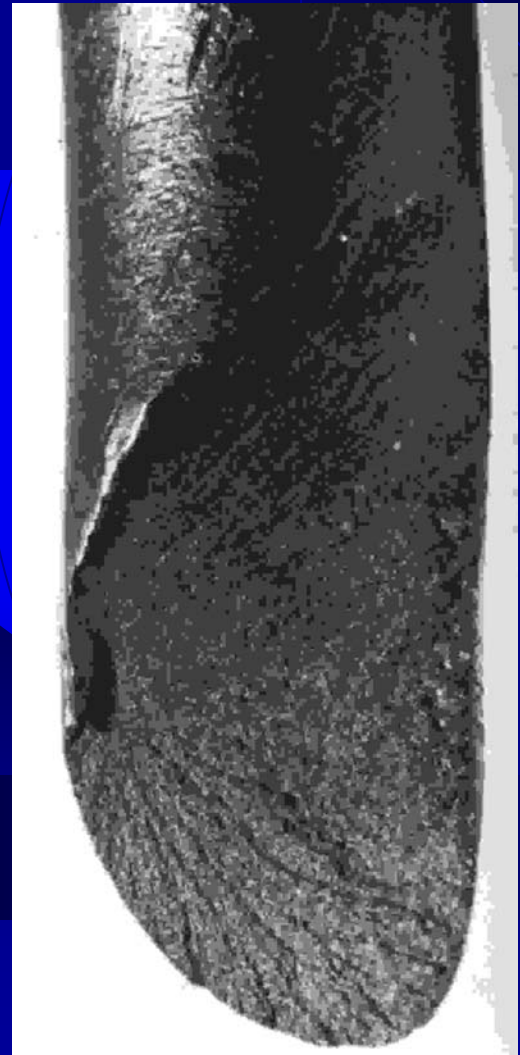
ZONAS DE ORIGEN DE LA GRIETA



FRACTURA DE RESORTE DE ACERO AISI 10B62



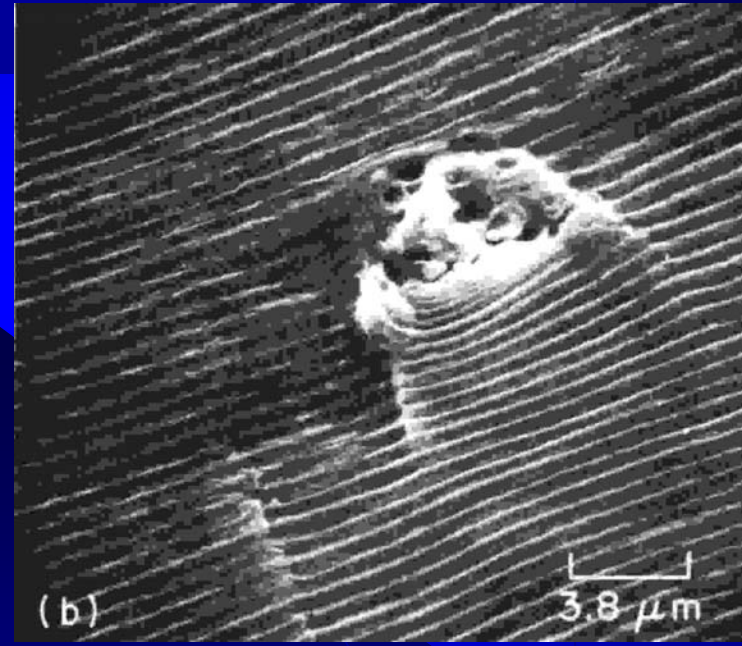
FRACTURA DE RESORTE DE ACERO AISI 10B62



RESORTE DE TREN : FALLA POR TORSIÓN



MICROMECHANISMO DE FATIGA



Fatiga en Al 2024-T3