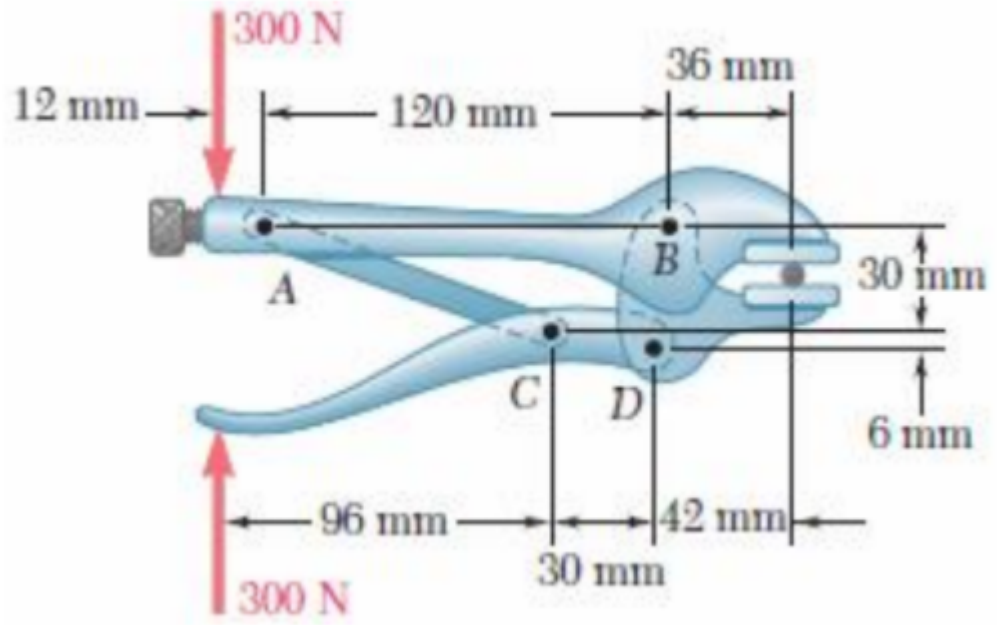
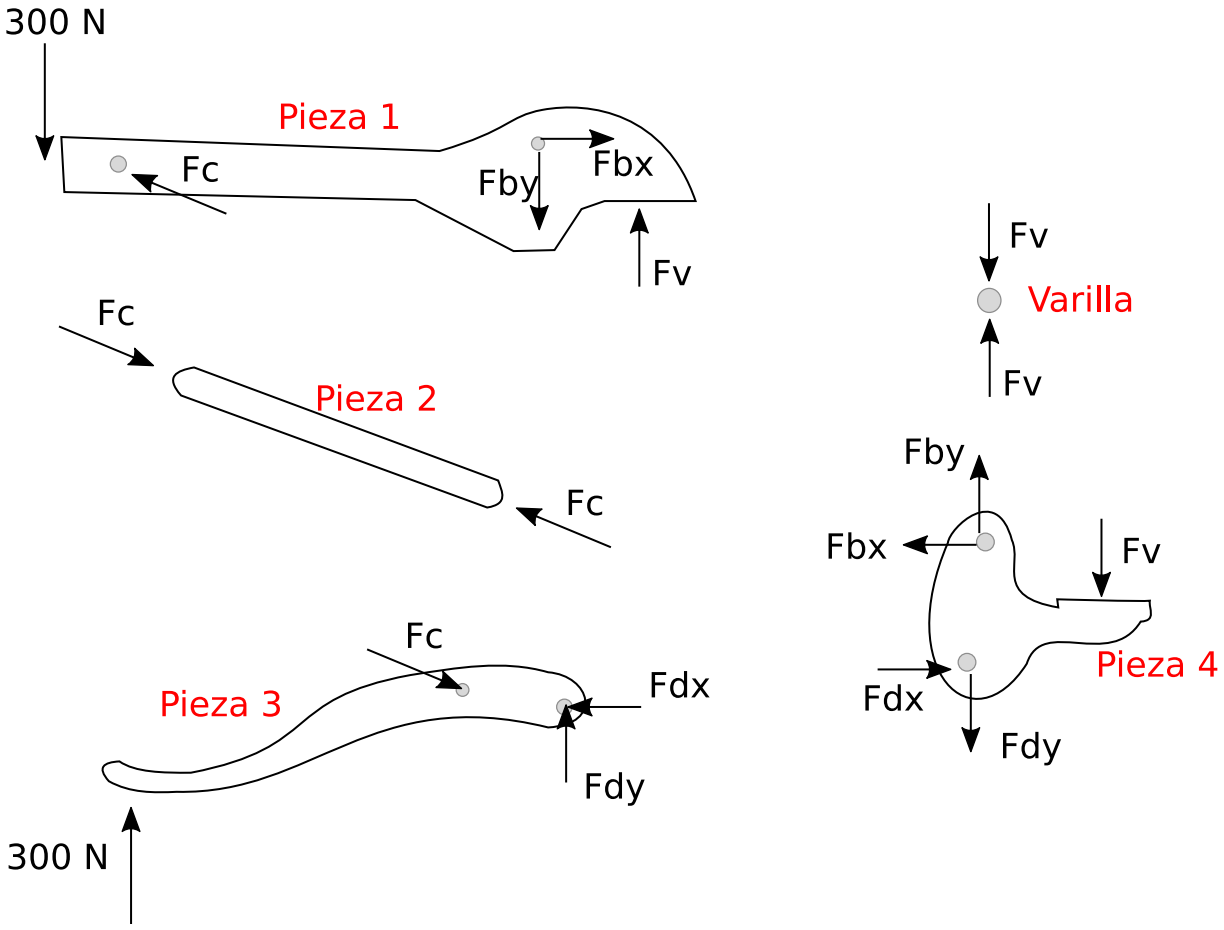
EJERCICIO 1

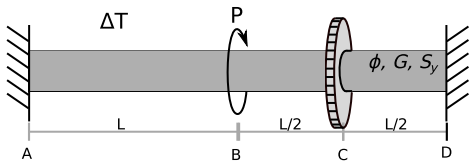




Pieza 3: [Lc = Raiz(84^2+30^2)=89,2]
Sum M(D)=0 --> 300.126 + Fc.84/Lc.6 = Fc.30/Lc.30 --> Fc = 8.514,54 N
Sum Fx=0 -----> Fc.84/Lc = Fdx --> Fdx = 8.018,2 N
Sum Fy=0 -----> 300 + Fdy = Fc.30/Lc --> Fdy = 2.563,63 N

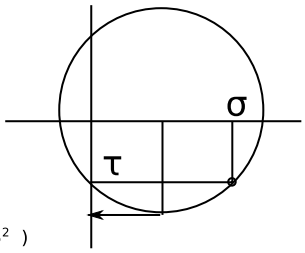
Pieza 4:
Sum M(B)=0 --> Fv.42 = Fdx.36 + Fdy.6 --> Fv = 8.445,5 N
Sum Fx=0 -----> Fbx = Fdx --> Fbx = 8.018,2 N
Sum Fy=0 -----> Fv + Fdy = Fby --> Fby = 11.009,1 N

EJERCICIO 2

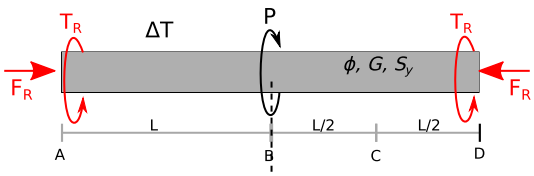


Sección B (+) comprometida

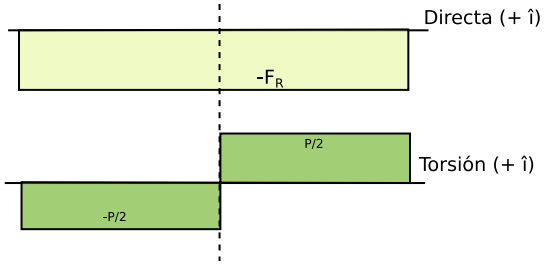
$\sigma = 4.F_R/pi.\phi^2 = 4.a.\Delta T.E$
$\tau = 16.P/2.pi.\phi^3 = 55,25$ MPa



$\tau_{MAX} = RAIZ(\sigma^2/4+\tau^2)$
$S_Y/2 = RAIZ\ (\ 16.a^2.\Delta T^2.E^2 / 4\ + 55,25^2\ )$
$RAIZ\ [\ (Sy^2/4 - 55,25^2).4/16.a^2.E^2\ ] = \Delta T$
$\Delta T_{MAX} = 19,7º$

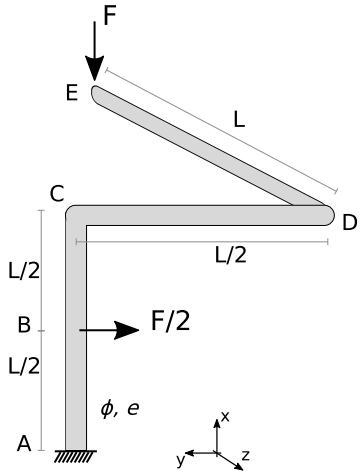


Por simetría $T_R = P/2$
$\Delta L = 0$ --> $a.2L.\Delta T = F_R.2L/EA$ --> $F_R = a.\Delta T.E.A$

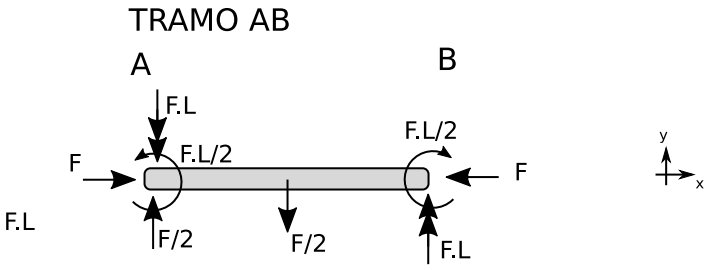


$\Theta = T.L/2G.J = 0,00852$ rad ~ 0,49º
$J=pi.\phi^4/32 = 2,07x10^{-7}\ m^4$

EJERCICIO 3



TRAMO AB



TRAMO BC