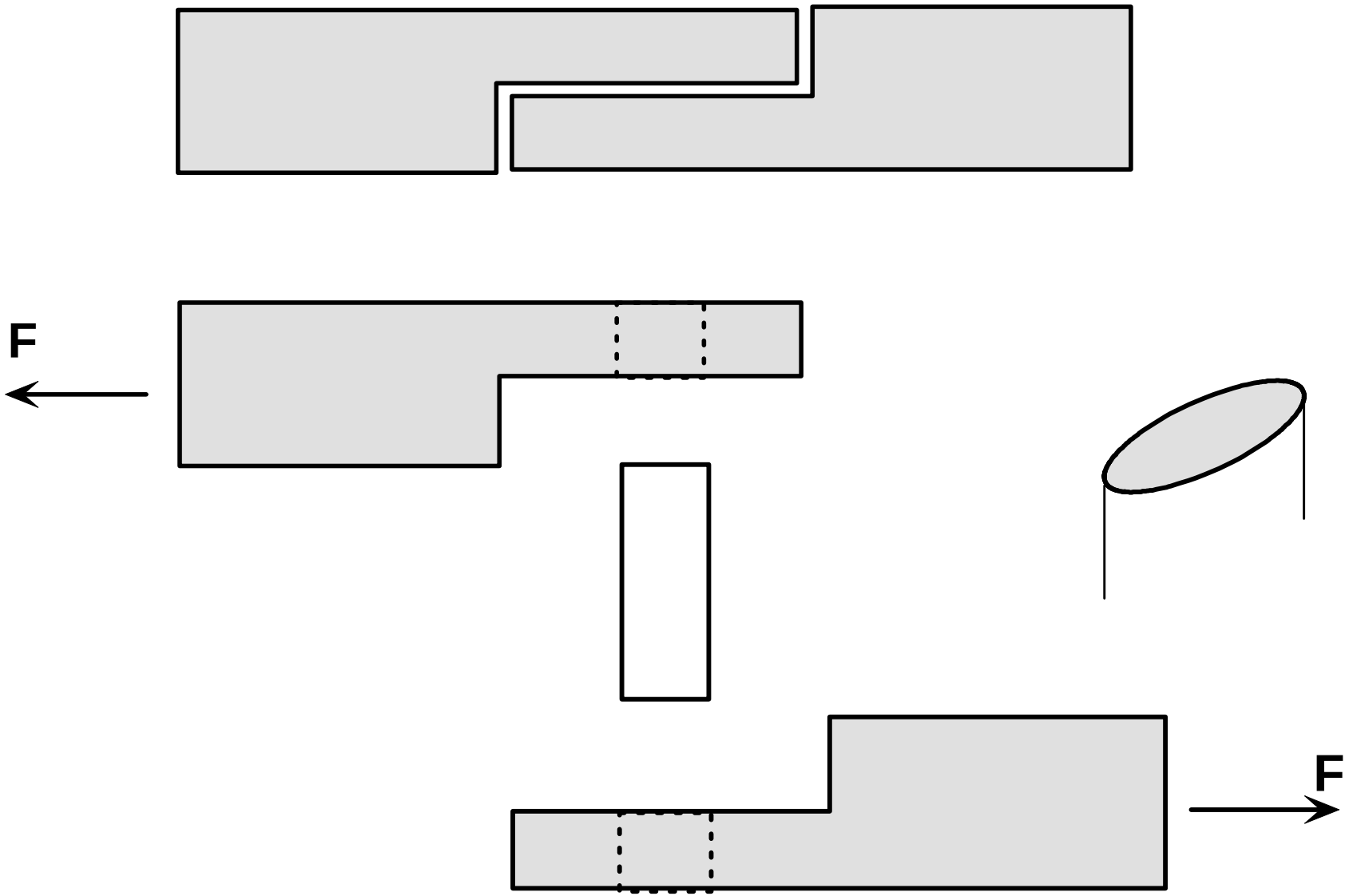
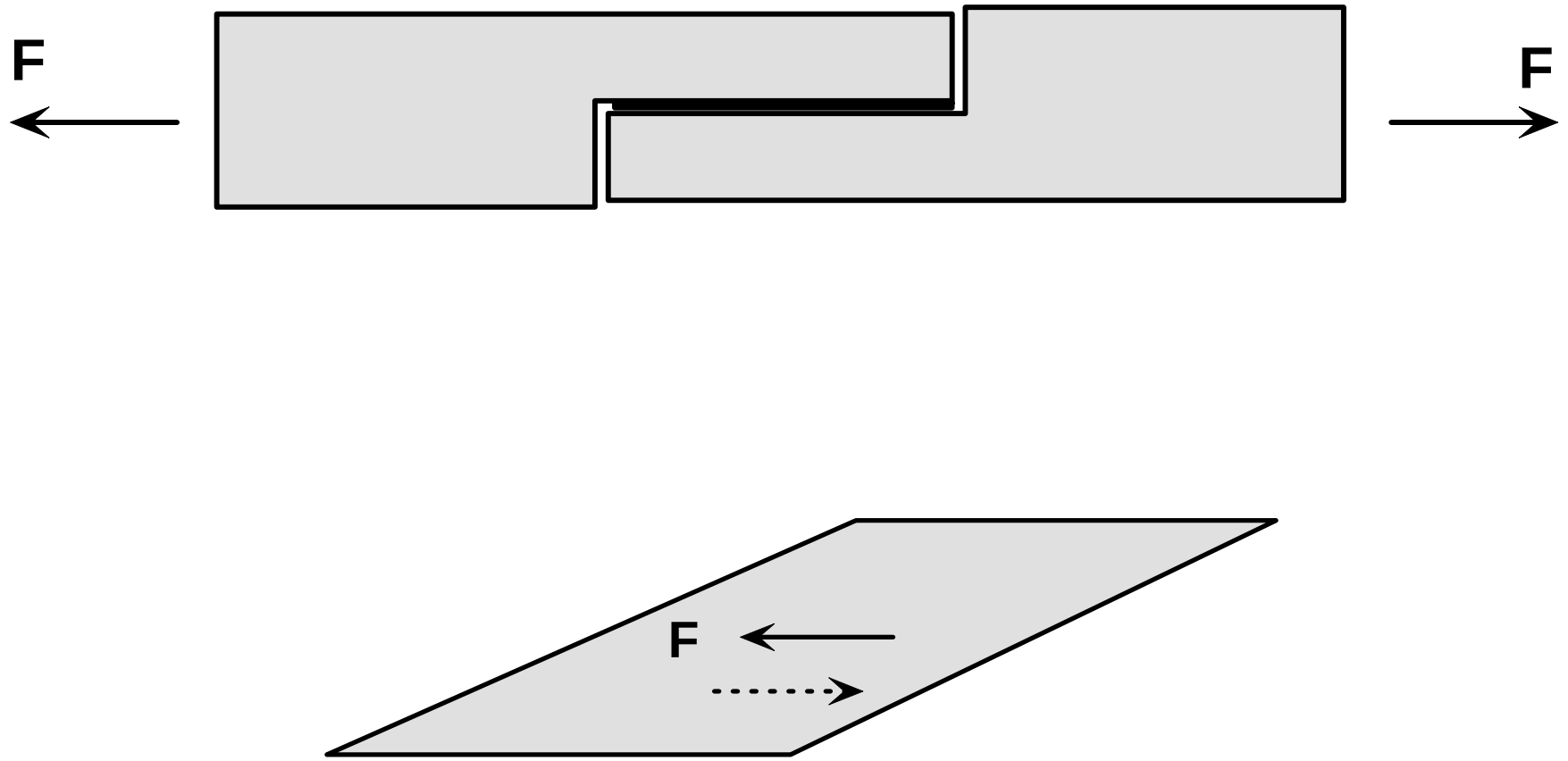
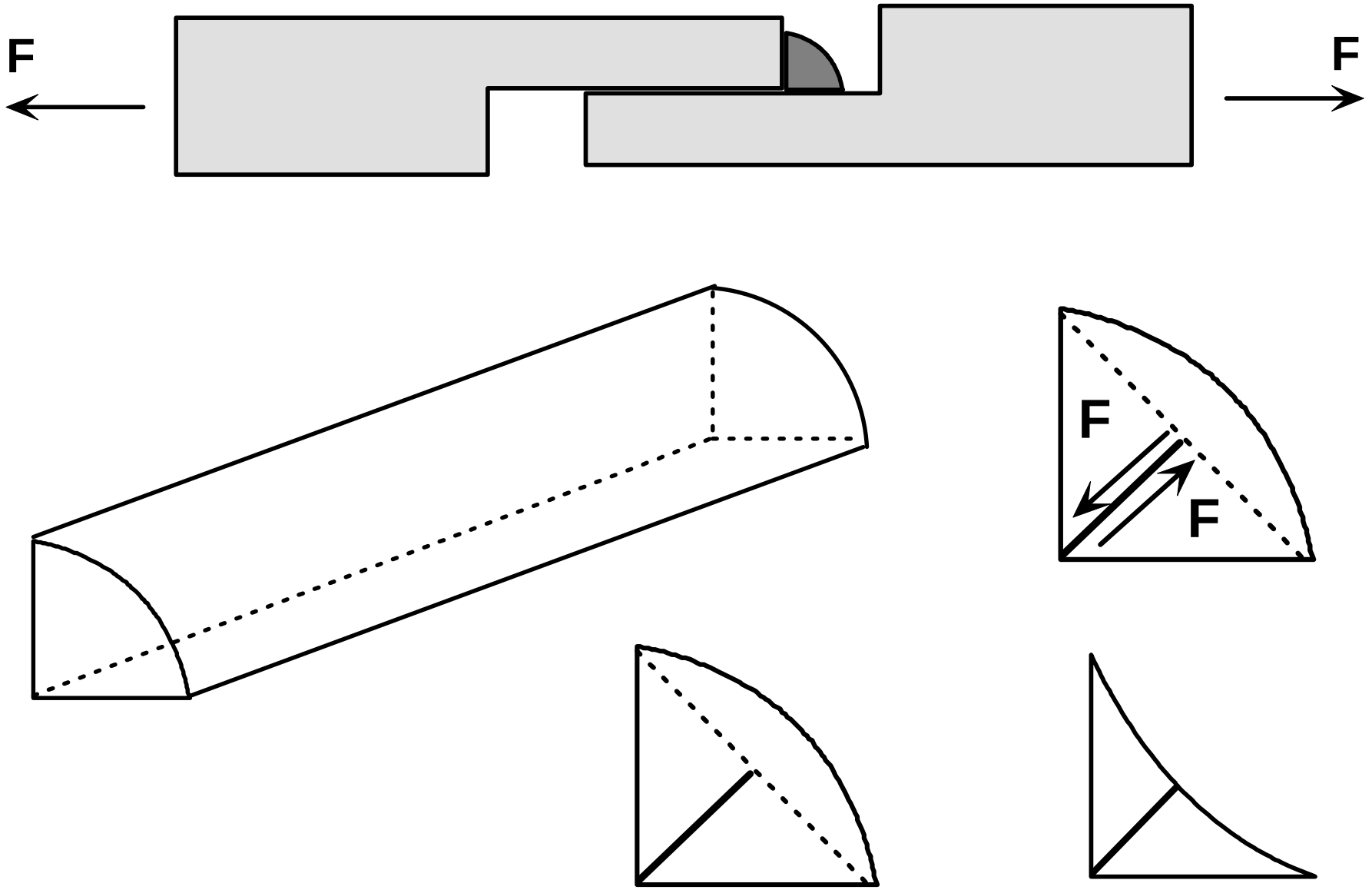
Cortadura pura:




F
F
F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F
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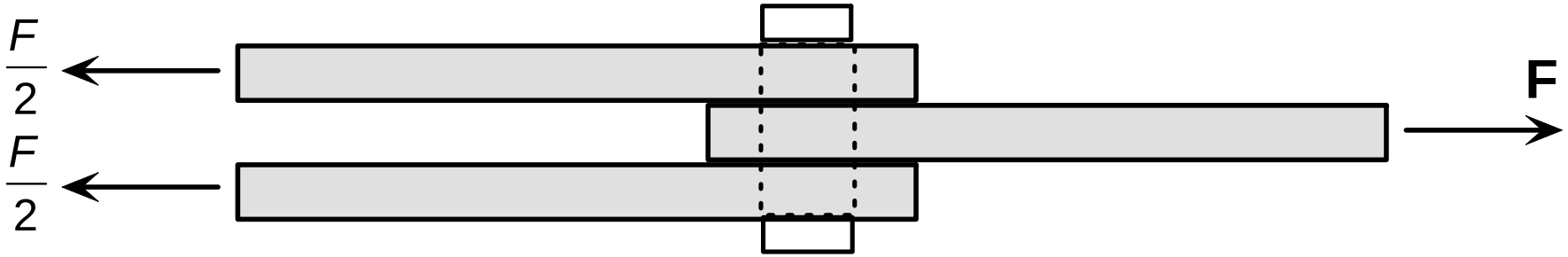
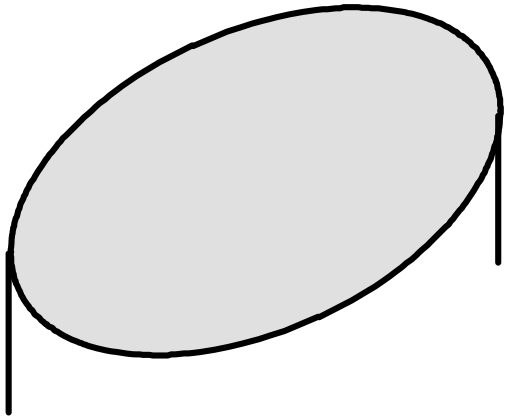
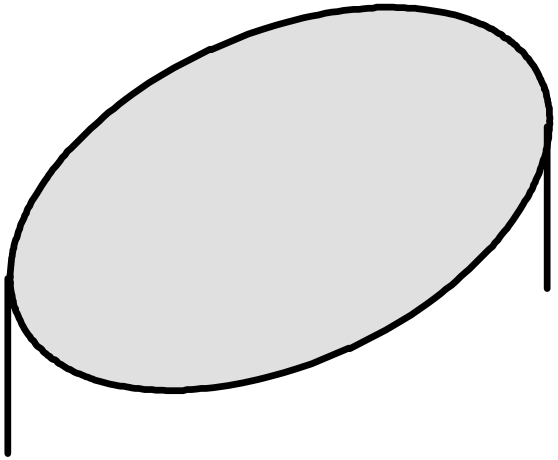

F/2
F/2
F

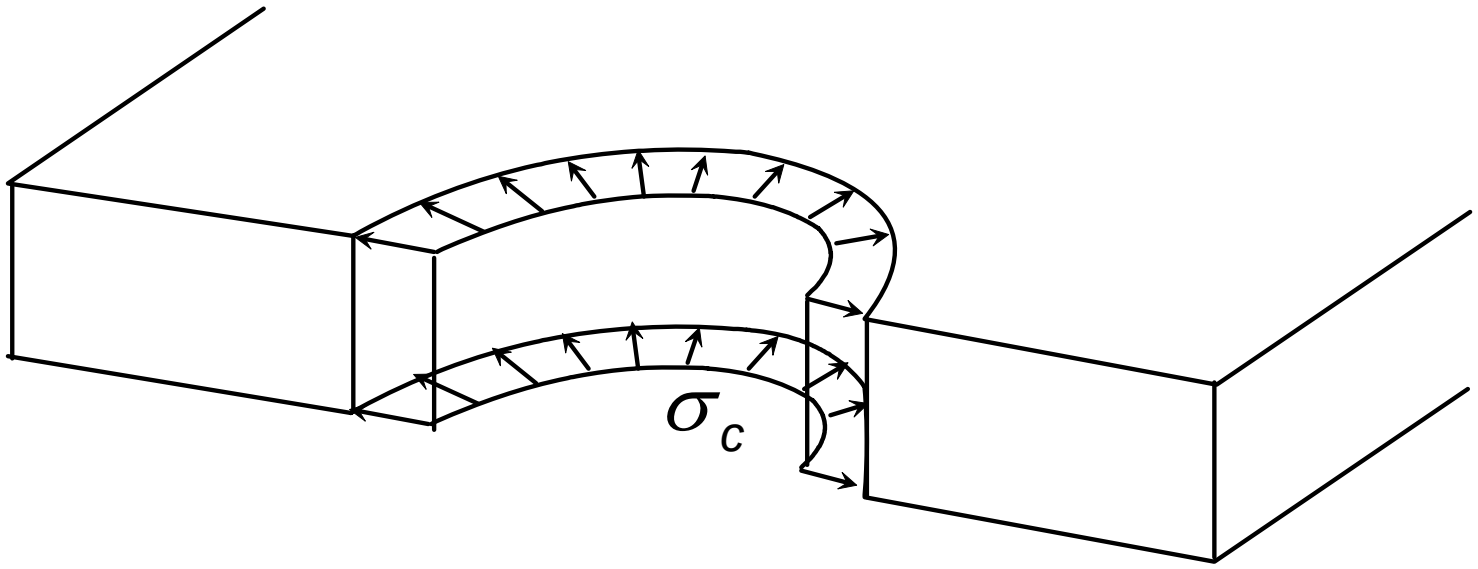
Cálculo de uniones remachadas/atornilladas:

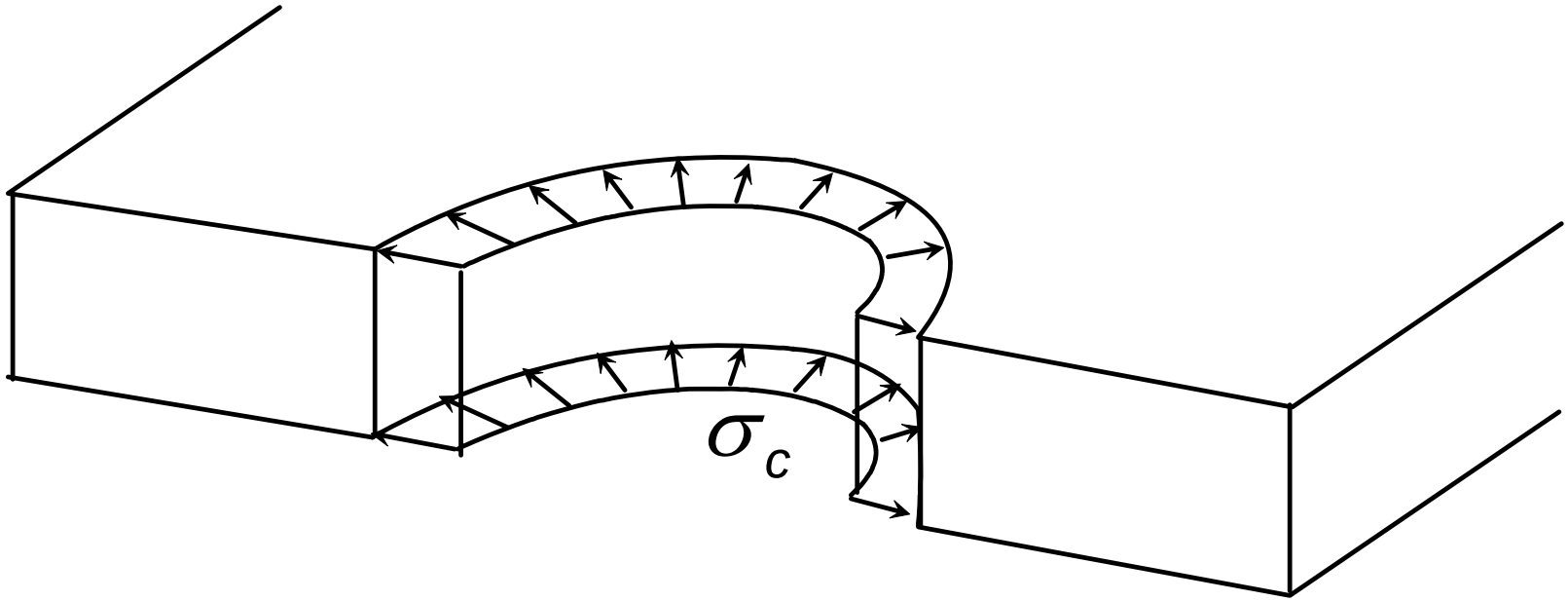
1.- Cortadura del elemento de unión:

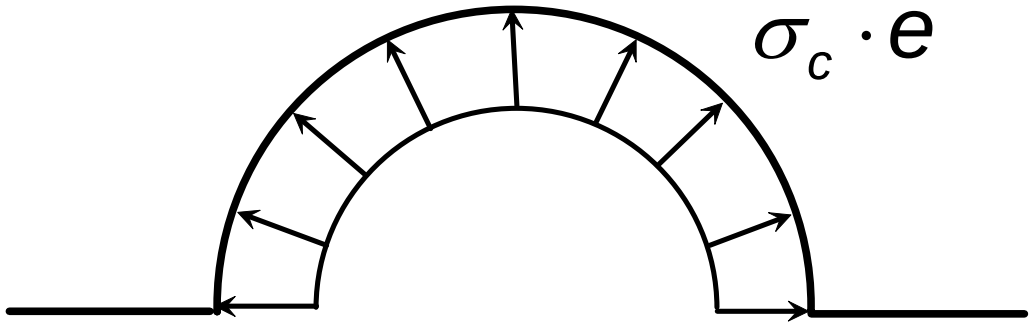


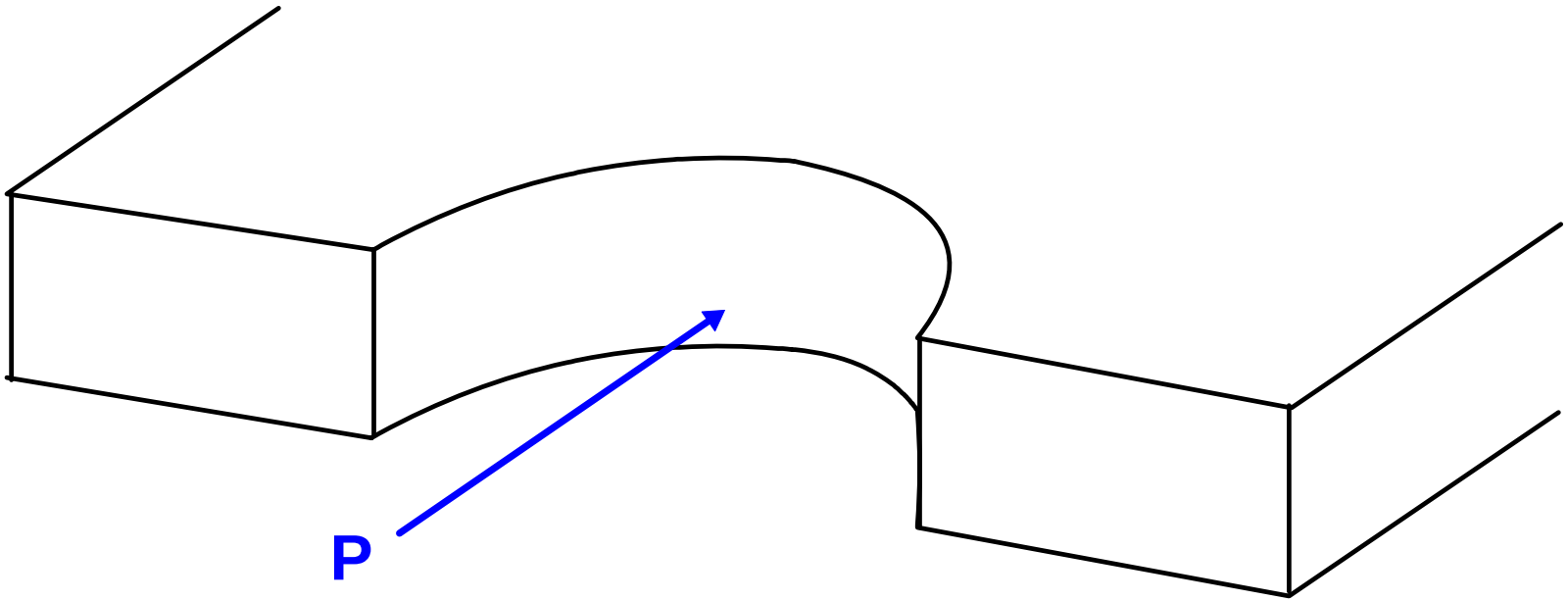


2.- Aplastamiento de las paredes de los taladros:




σ_c


$\sigma_c \cdot e$

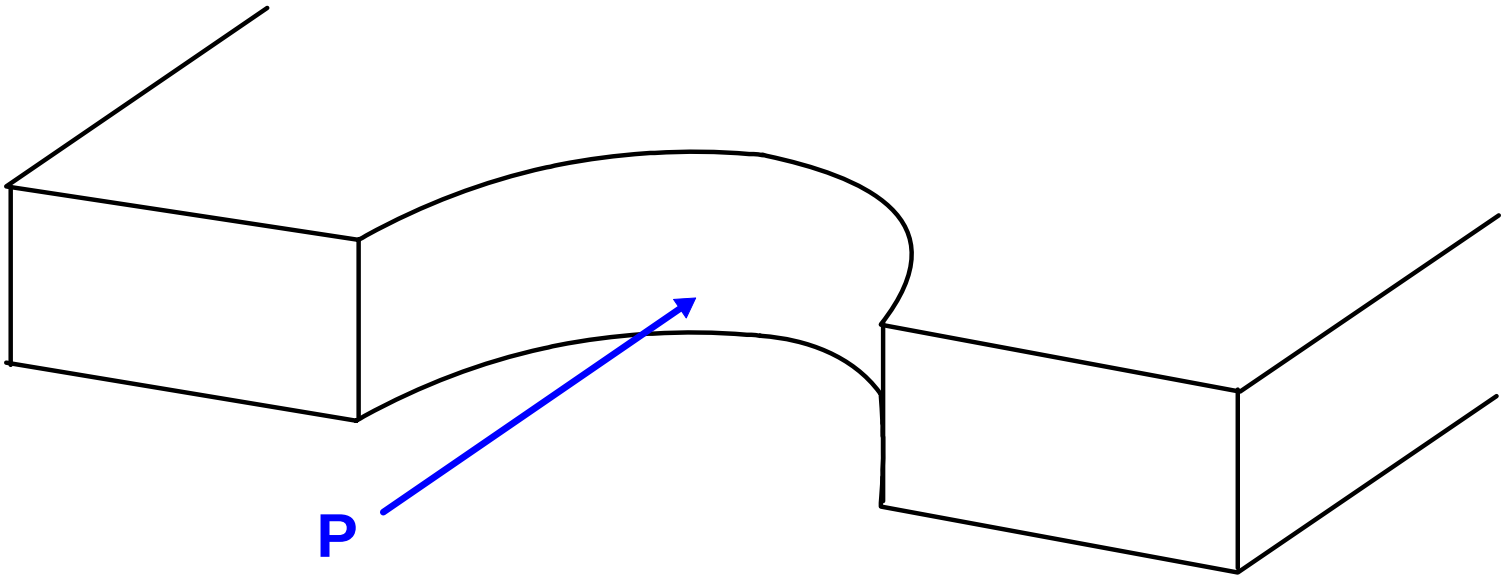


$$\sigma_c = \frac{P}{e \cdot \phi}$$

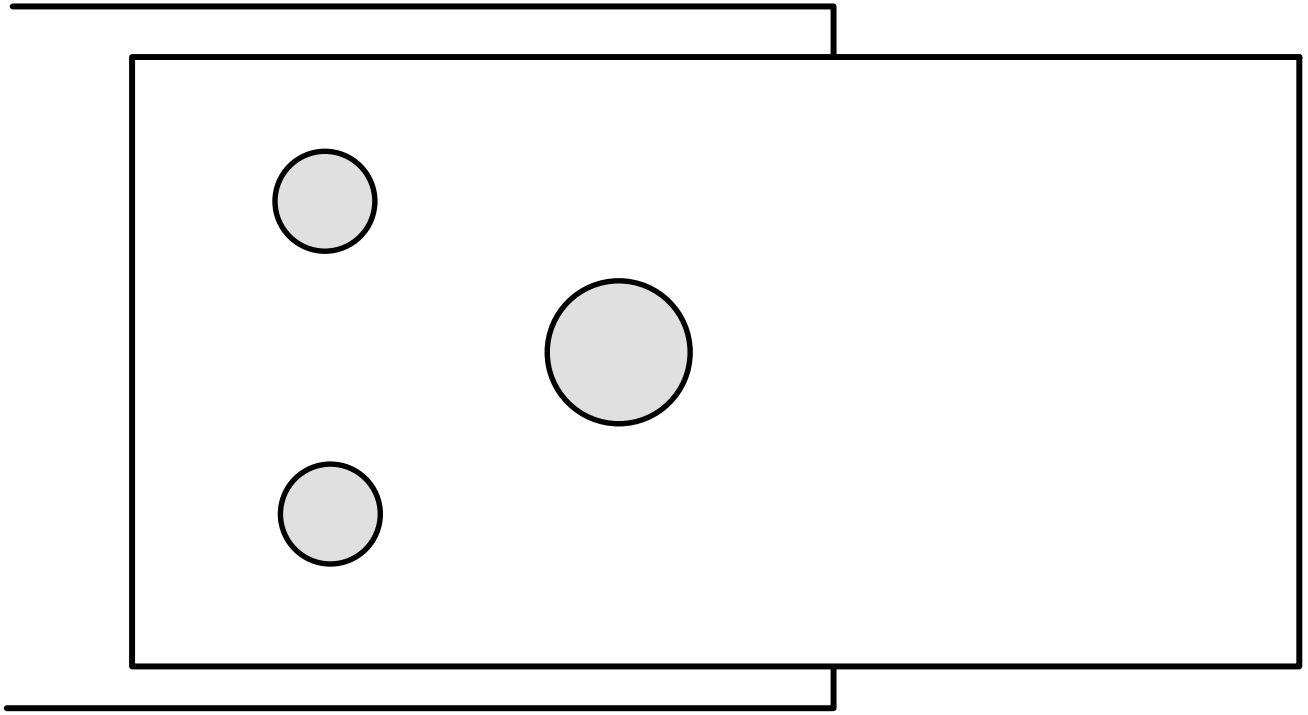
$$\sigma_C < \sigma_{adm}$$

3.- Tracción en los elementos taladrados:

Hipótesis: Reparto uniforme de la tensión

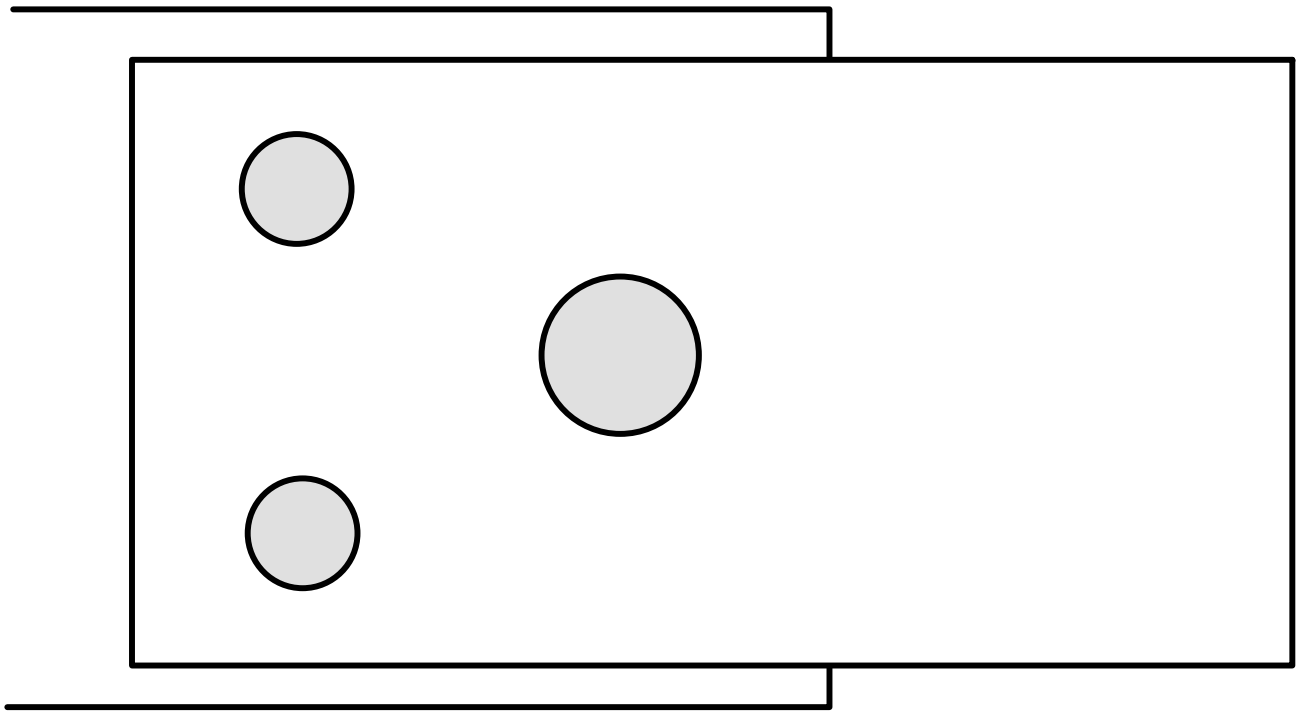


UNIONES CON VARIOS TORNILLOS



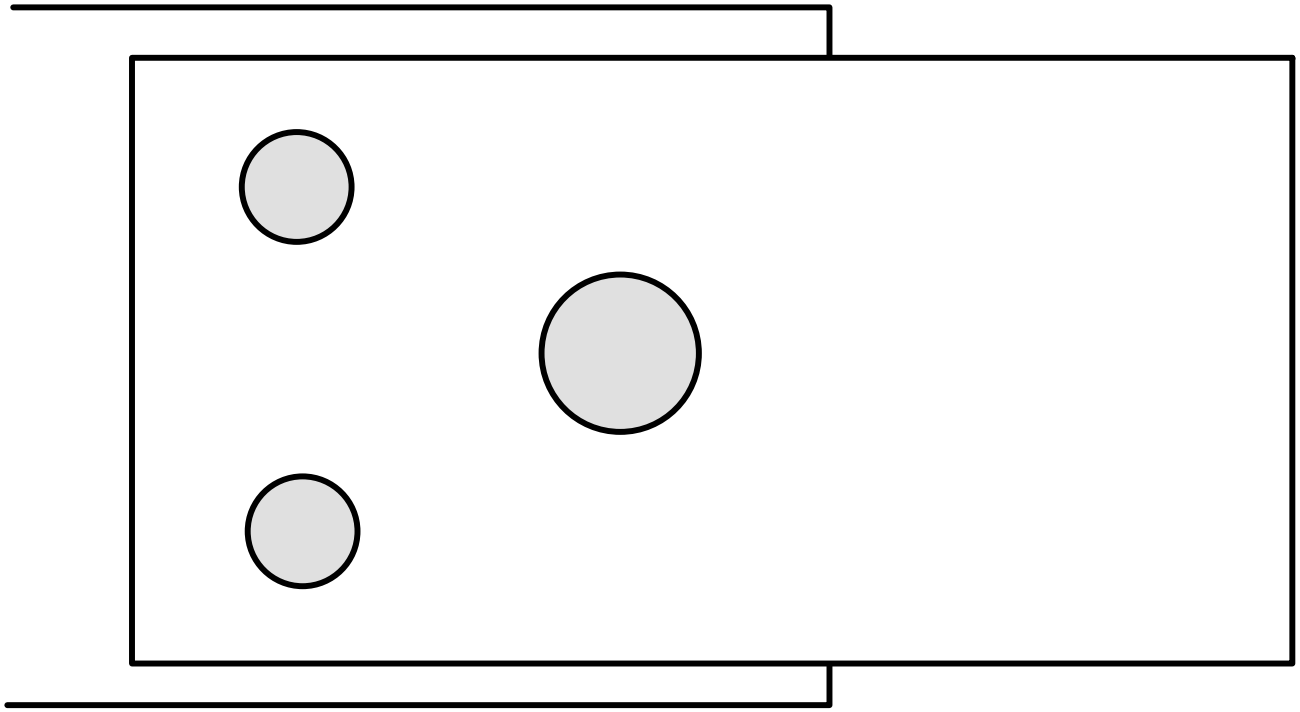
HIPÓTESIS:

1.- P se reparte proporcionalmente a la sección de cada elemento

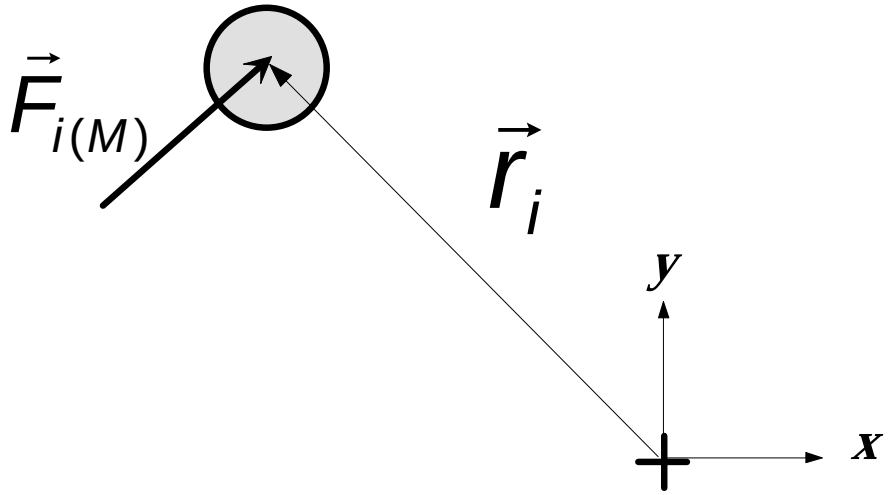


2.- M se reparte proporcionalmente a:

- La sección de cada elemento
- La distancia al eje de giro



Cálculo del eje de giro:



Equilibrio de fuerzas:

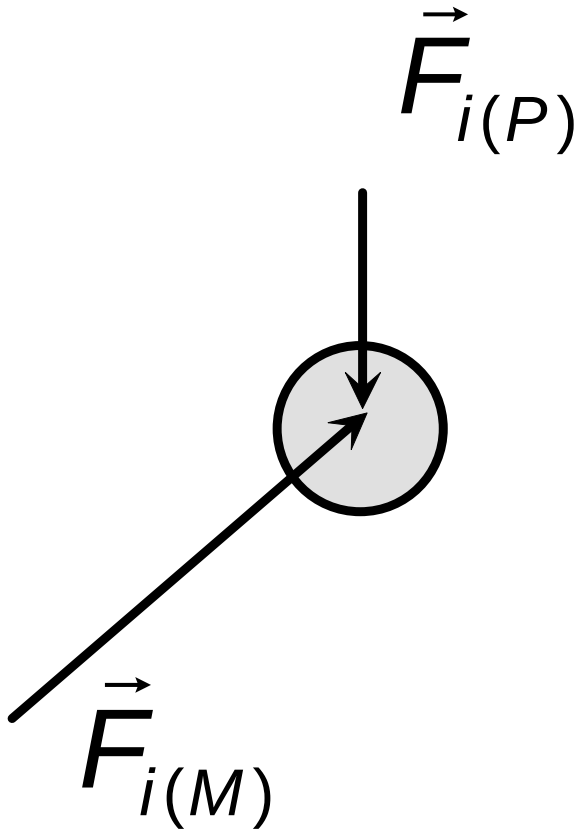
Cálculo de C:

Equilibrio de momentos:

Por tanto:

$$F_{i(M)} = M \frac{r_i A_i}{\sum A_i r_i^2}$$

Resultante:



$$F_{i(P)} = P \frac{A_i}{\sum A_i}$$

$$F_{i(M)} = M \frac{r_i A_i}{\sum A_i r_i^2}$$

Casos particulares:

- Si hay “n” elementos iguales (misma sección):

-Si hay “n” elementos iguales, y a la misma distancia del eje de giro: