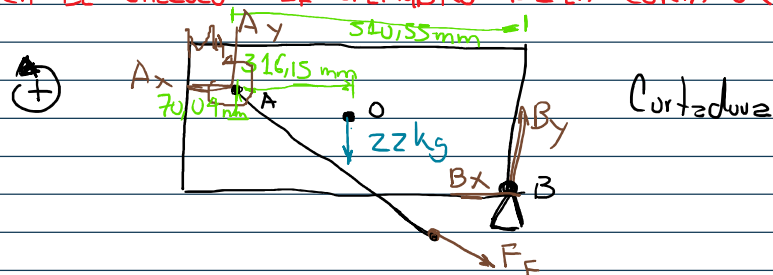


MASA CORTADORA: 22 kg

DCL PARA EL CÁLCULO DEL CILINDRO DE LA CORTADURA



$$\sum F_y = 0; A_y + B_y = 215,6 \text{ N}$$

$$\sum F_x = 0; A_x = B_x$$

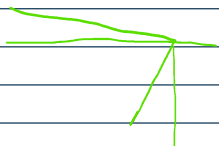
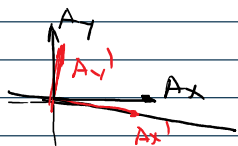
$$\sum M_A = 0; (0,51 \text{ m})(B_y) - (0,316 \text{ m})(215,6 \text{ N}) = M_A$$

$$\sum M_B = 0; -(0,51 \text{ m})(A_y) + (0,194 \text{ m})(215,6 \text{ N}) = 0$$

$$A_y = 82,01 \text{ N}$$

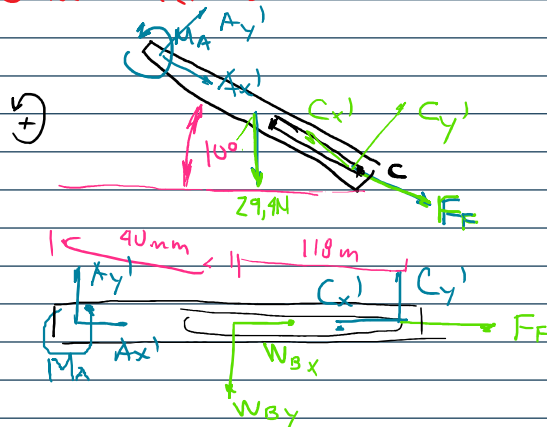
$$B_y = 133,59 \text{ N}$$

$$M_A = 26,3 \text{ Nm} \curvearrowright$$



$$\begin{matrix} \text{Sen} & 10 \\ \text{Cos} & 96,37 \end{matrix}$$

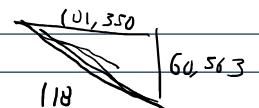
BARRA INTERMEDIA



$\mu_{FF} = 0,2$  ENTRE ACEROS INOXIDABLES LUBRICADOS

$$A_y' = A_y \cos(10) + A_x \sin(10)$$

$$A_x' = -A_y \sin(10) + A_x \cos(10)$$



$$\sum F_x = 0; A_x' - C_x' + W_{Bx} + F_f = 0$$

$$A_x' - C_x' + 29,4 \text{ N} \sin 10 + C_y' \mu_{FF} = 0$$

$$\sum F_y = 0; A_y' + C_y' - W_{By} = 0$$

$$A_y' + C_y' - 29,4 \text{ N} \cos 10 = 0$$

$$\sum M_C = 0; M_A + 0,118 \text{ m} (29,4 \text{ N}) \cos 10 - 0,158 \text{ m} (A_y') = 0$$

$$\frac{26,3 \text{ Nm} + 3,42 \text{ Nm}}{0,158 \text{ m}} = A_y'$$

$$A_y' = 198,1 \text{ N}$$

$$C_y' = 159,15 \text{ N} \downarrow$$

0,150 m

$$A_y' = 138,1 \text{ N}$$

$$C_y' = 159,15 \text{ N} \downarrow$$

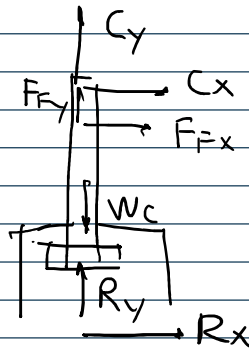
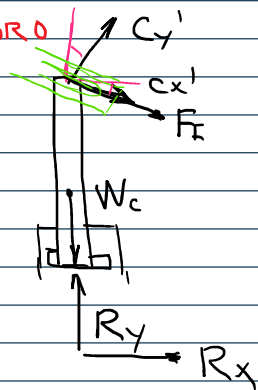
$$A_x = 618,12 \text{ N}$$

$$A_x' = 594,49 \text{ N}$$

$$F_F = 31,83 \text{ N} \leftarrow$$

$$C_x' = 604,7 \text{ N}$$

CILINDRO



$$C_x = C_x' \cos 10 + C_y' \sin 10$$

$$C_y = -C_x' \sin 10 + C_y' \cos 10$$

$$C_x = 623,14 \text{ N}$$

$$C_y = 51,72 \text{ N}$$

$$\sum F_x = 0; C_x + F_{Fx} + R_x = 0$$

$$623,14 \text{ N} + 31,83 \text{ N} (\cos 10) + R_x = 0$$

$$\sum F_y = 0; C_y + F_{Fy} + R_y - W_c = 0$$

$$51,72 - (31,83 \text{ N}) \sin 10 + R_y - 4,9 \text{ N} = 0$$

$$R_y = 44,29 \text{ N} \downarrow$$

$$R_x = 654,49 \text{ N} \leftarrow$$