

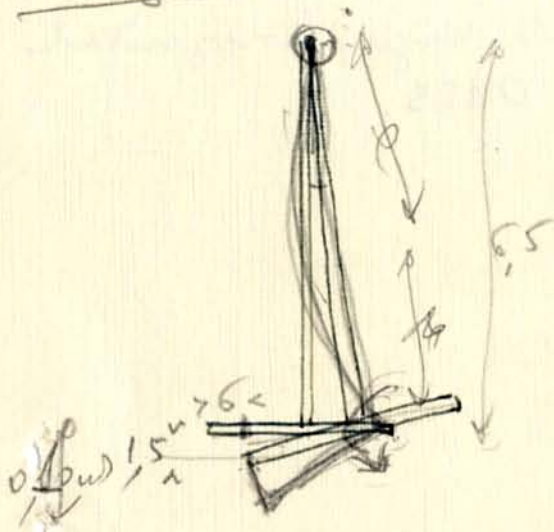
HANGAR DESMONTABLE

Comprobación del pandeo de la viga horizontal
de puertas del proyecto de OMES.

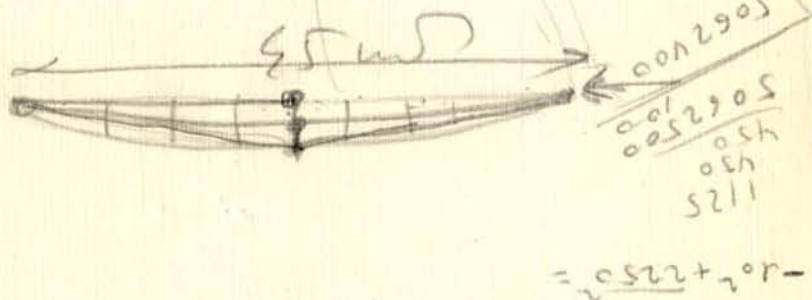
NÚMERO = 567.502

FECHA = 2-1-46

Hangers Desmontables



$$f_h = 0,0001 \frac{45^2}{28} = 7,2 \text{ cm}$$



$$I = 56 \times 140^2 \times 2 = 2.190.000 \text{ cm}^4$$

$[] S = 56 \text{ cm}^2$

$$f = \frac{5}{384} \cdot \frac{22.400 \times 45^3 \times 10^6}{2.190.000 \times 2.190.000} = 5,8 \text{ cm}$$

Requerida de pandeo = 10 cm

$$5 + 1,5 \cdot 6,5 \cdot 0,25 = 0,9 \text{ cm} \times 40 \text{ cm} = 4.000 \text{ cm}^2$$

$$0,25 \text{ m} \times 1 \text{ m} = 0,25 \text{ m}^2$$

$$\delta = \frac{1}{2} \int_0^L \frac{M^2}{EI} ds = \frac{1}{2} \int_0^L \left(\frac{M}{L} s \right)^2 \frac{1}{EI} ds = \frac{65 \cdot 0,23^2 EI/L}{4 EI} = \frac{0,23^2}{4} = 0,009$$

M es el q produce un giro $\frac{0,10}{1,40} = 0,07$

$$0,07 = \frac{JML}{EI} \Rightarrow M = 0,023 \frac{EI}{L} = 107,000 \text{ cm}^2$$

$$\delta = \frac{1}{2} \int_0^L \frac{M^2}{EI} ds = \frac{1}{2EI} \int_0^L \left(\frac{M}{L} s \right)^2 ds = \frac{M^2}{2EI L^2} \int_0^L s^2 ds = \frac{M^2 L}{6EI} = 0,028 \frac{EI}{L}$$

$$\frac{0,028^2 \times 2.190.000}{6 \times 650} \times 1.450 = \frac{576 \times 2,1 \times 1450}{3900} = 450 \text{ cm}^2/\text{kg}$$

$$C_{tot} = 450 \times 7 = 3.150 \text{ cm}^2/\text{kg}$$