

DATOS

$l = 3.5$   
 $A = 1.5$   
 $\Delta l = 0.07$

DUS  $1 \frac{2}{3}$

$$E = \frac{F}{A}$$

$$y = \frac{FL}{AD}$$

$M = 300 \text{ kg}$   $Pm-g$   $P = (300 \text{ kg}) (9.81)$

a)  $E = \frac{F}{A}$   $1.5 \text{ cm}^2 \frac{2943 \text{ Nw}}{100^2} \frac{\text{m}^2}{\text{cm}^2}$   
 $19620000$

b)  $Du = \frac{A L}{L}$   $0.07 \text{ cm} \frac{1 \text{ m}}{100 \text{ cm}}$   
 $Du = \frac{0.07}{3.5 \text{ m}}$   $Du = \frac{0.07 \text{ cm}}{350 \text{ cm}}$   
 $Du = 2 \times 10^{-4}$   $N = 1000000 \text{ DIN}$

c)  $y = \frac{FL}{ADL}$   $y = \frac{(2943 \text{ Nw}) (3.5 \text{ m})}{(1.5 \text{ cm}^2) (0.07)}$

$y = 9.81$   $y = \frac{294300000 \text{ DIN}) (350)}{(1.5 \text{ cm}^2) (0.07 \text{ cm})}$

DATOS

$$L = 2.7 \text{ m}$$

$$\Delta L = 0.15 \text{ cm}^2$$

$$M = 50 \text{ kg}$$

$$\gamma = 19 \times 10^{11}$$

elongacion

$$F = (50 \text{ kg})(9.81 \text{ m/s}^2)$$

a)

$$\Delta L = \frac{F \cdot L}{\gamma \cdot A}$$

$$P = 490.5 \text{ Nw}$$

$$\frac{(490.50000 \text{ DIN}) \times (270 \text{ cm})}{(19 \times 10^{11}) (0.15 \text{ cm}^2)}$$

$$\Delta L = 0.3 \text{ cm}$$

b)  $E = \frac{F}{A}$       $T = F$

$$F = E \cdot A = (20 \times 10^8 \text{ DIN/cm}^2) (0.15 \text{ cm}^2)$$

$$F = 300 \times 10^6 \text{ DIN}$$

$$\gamma = 19 \times 10^{11} \text{ dinicm}^2 \quad E = \frac{F}{A}$$
$$F = E \cdot A$$

DATOS

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$$M = 50 \text{ kg}$$

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elongacion

$$F = (50 \text{ kg}) (9.81 \text{ m/s}^2)$$

a)

$$P = 490.5 \text{ Nw}$$

$$\Delta L = \frac{F \cdot L}{\gamma \cdot A}$$

$$\frac{(490.50000 \text{ DIN}) \cdot (270 \text{ cm})}{(19 \times 10^{11}) \cdot (0.15 \text{ cm}^2)}$$

$$\Delta L = 0.3 \text{ cm}$$

b)  $E = \frac{F}{A}$        $T = F$

$$F = E \cdot A = (20 \times 10^8 \text{ DN/cm}^2) (0.15 \text{ cm}^2)$$

$$F = 300 \times 10^8 \text{ DN}$$

$$\gamma = 19 \times 10^{11} \text{ din/cm}^2 \quad E = \frac{F}{A}$$

$F = E \cdot A$

DATOS

$$L = 1.2 \text{ m} \quad r = (4.10) \times (9.81)$$

$$\Delta L = 0.22 \text{ cm}^2$$

$$M = 4.10 \text{ kg}$$

$$F = 40.221$$

$$a) \quad Du = \frac{\Delta L}{L} = \frac{40.221 \times 1000000 \text{ din}}{4022100 \text{ din}}$$

$$\Delta L = \left( \frac{4022100}{18 \times 10^{11}} \right) \times (120)$$

$$\Delta L = 0.0012 \text{ cm}$$

$$F = E \cdot A \quad F = (15 \times 10^8) (0.22 \text{ cm}^2)$$

$$F = 330000000 \text{ din}$$

DA 105

$$L = 12.5 \text{ cm}$$

$$A = 2.5 \text{ cm}$$

$$P = ?$$

$$\Delta x = 0.8 \times 10^{-4} \text{ cm}$$

$$F = 7 \times 10^7 \text{ DIN}$$

$$F = 7 \times 10^7 \text{ DIN / cm}^2$$

$$F = \frac{7 \times 10^7 \text{ DIN} \cdot (2.5 \text{ cm})^2}{12.5 \text{ cm}}$$

$$700000 \text{ DIN}$$

$$V = \frac{m}{D}$$

DA 105

$$m = 1000 \text{ kg}$$

$$D = 790 \text{ kg / m}^3$$

$$V = \frac{1000 \text{ kg}}{790 \text{ kg / m}^3} = 1.26 \text{ m}^3$$

$$\frac{m \cdot P}{6} = \frac{9016 \text{ Nm / m}^3}{9.81} = 919.06 \text{ kg}$$

$$V = \frac{m}{D} = \frac{919.06}{0.506}$$

$$V = 1816.34$$

$$P = \frac{m}{V} = \frac{919.06}{5000}$$

$$D = 0.306$$