

str. 66 / úloha 330

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$$\rho_{h_1} = \rho_{h_2}$$

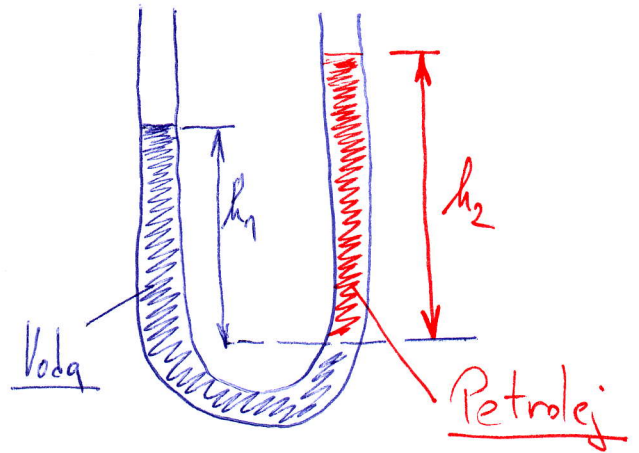
$$h_1 = 10 \text{ cm} = 0,1 \text{ m}$$

$$\rho_1 = 1000 \frac{\text{kg}}{\text{m}^3}$$

$$h_2 = 11,9 \text{ cm} = 0,119 \text{ m}$$

$$\rho_2 = ? \left[\frac{\text{kg}}{\text{m}^3} \right]$$

$$g = 10 \frac{\text{N}}{\text{kg}}$$



$$\rho_{h_1} = \rho_{h_2}$$

$$h_1 \cdot \rho_1 \cdot g = h_2 \cdot \rho_2 \cdot g$$

$$h_1 \cdot \rho_1 = h_2 \cdot \rho_2$$

$$\rho_2 = \frac{h_1 \cdot \rho_1}{h_2}$$

$$\rho_2 = \frac{0,1 \cdot 1000}{0,119}$$

$$\rho_2 = 840 \frac{\text{kg}}{\text{m}^3}$$



$$p_{h_1} = p_{h_2}$$

$$p_{h_1} = h_1 \cdot \rho_1 \cdot g$$

$$p_{h_1} = 0,1 \cdot 1000 \cdot 10$$

$$p_{h_1} = 1000 \text{ Pa}$$

$$\rho_2 = \frac{p_{h_2}}{h_2 \cdot g}$$

$$\rho_2 = \frac{1000}{0,119 \cdot 10}$$

$$\rho_2 = 840 \frac{\text{kg}}{\text{m}^3}$$

$$p_{h_2} = h_2 \cdot \rho_2 \cdot g$$

$$h_2 = \frac{p_{h_2}}{\rho_2 \cdot g}$$

$$\rho_2 = \frac{p_{h_2}}{h_2 \cdot g}$$

$$g = \frac{p_{h_2}}{h_2 \cdot \rho_2}$$

Hustota petroleje je $840 \frac{\text{kg}}{\text{m}^3}$.