

INCERTEZA FINAL DA DENSIDADE (g/mm^3)

▶ REGUA

$$\bar{\sigma}_p = \bar{\rho} \cdot \sqrt{\left(\frac{\sigma_M}{\bar{M}}\right)^2 + \left(\frac{2 \cdot \sigma_D}{\bar{D}}\right)^2 + \left(\frac{\sigma_H}{\bar{H}}\right)^2}$$

$$\bar{\sigma}_p = 6,683 \cdot 10^{-3} \cdot \sqrt{\left(\frac{0}{42,58}\right)^2 + \left(\frac{2 \cdot 4,472 \cdot 10^{-2}}{20,08}\right)^2 + \left(\frac{4,472 \cdot 10^{-2}}{20,12}\right)^2}$$

$$\bar{\sigma}_p = 6,683 \cdot 10^{-3} \cdot \sqrt{0 + 1,983971917 \cdot 10^{-5} + 4,940235328 \cdot 10^{-6}}$$

$$\bar{\sigma}_p = 6,683 \cdot 10^{-3} \cdot \sqrt{2,477995473 \cdot 10^{-5}}$$

$$\bar{\sigma}_p = 6,683 \cdot 10^{-3} \cdot 4,977946839 \cdot 10^{-3}$$

$$\bar{\sigma}_p = 3,326761873 \cdot 10^{-5} \text{ g}/\text{mm}^3$$

0,000374

▶ PAQUÍMETRO

$$\bar{\sigma}_p = 8,292 \cdot 10^{-3} \cdot \sqrt{\left(\frac{0}{42,58}\right)^2 + \left(\frac{2 \cdot 0}{18,00}\right)^2 + \left(\frac{4,472}{20,18}\right)^2}$$

$$\bar{\sigma}_p = 8,292 \cdot 10^{-3} \cdot \sqrt{0 + 0 + 4,910901481 \cdot 10^{-6}}$$

$$\bar{\sigma}_p = 8,292 \cdot 10^{-3} \cdot 2,2160555 \cdot 10^{-3}$$

$$\bar{\sigma}_p = 1,837555221 \cdot 10^{-5} \text{ g}/\text{mm}^3$$

$5,37 \times 10^{-5}$

▶ MICRÔMETRO

$$\bar{\sigma}_p = 7,942 \cdot 10^{-3} \cdot \sqrt{\left(\frac{0}{42,58}\right)^2 + \left(\frac{2 \cdot 0}{18,410}\right)^2 + \left(\frac{0}{20,146}\right)^2}$$

$$\bar{\sigma}_p = 7,942 \cdot 10^{-3} \cdot 0$$

$$\bar{\sigma}_p = 0$$

$2,109 \times 10^{-6}$