

Problem 1-17

Water has a density of 1.94 slug/ft^3 . What is the density expressed in SI units? Express the answer to three significant figures.

Solution

Use the conversion factor involving slugs in Table 1-2 on page 9.

$$1.94 \frac{\cancel{\text{slug}}}{\cancel{\text{ft}^3}} \times \frac{14.59 \text{ kg}}{1 \cancel{\text{ slug}}} \times \left(\frac{3.28 \cancel{\text{ ft}}}{1 \text{ m}} \right)^3 \approx 1.00 \times 10^3 \frac{\text{kg}}{\text{m}^3} = 1.00 \frac{\text{Mg}}{\text{m}^3}$$