

Problem 1-13

The density (mass/volume) of aluminum is 5.26 slug/ft^3 . Determine its density in SI units. Use an appropriate prefix.

Solution

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

$$5.26 \frac{\cancel{\text{slug}}}{\cancel{\text{ft}^3}} \times \frac{14.59 \text{ kg}}{1 \cancel{\text{slug}}} \times \left(\frac{3.28 \cancel{\text{ft}}}{1 \text{ m}} \right)^3 \approx 2.71 \times 10^3 \frac{\text{kg}}{\text{m}^3} = 2.71 \frac{\text{Mg}}{\text{m}^3}$$