Answer on Question #54640 – Chemistry – General chemistry

Question:

A sheet of ALuminon (Al) foil has a total area of 1.000 feet cubed and a mass of 3.746 grams. What is the thickness of the foil in millimeters (density of Al is 2.699 grams/cubic centimeters)?

Answer.

Volume $V = Ah$,

Mass $m = \rho V = \rho A h$

Area $A = 1000 \, ft^2 = 1.000 \times 30.48^2 = 929.0304 \approx 929 \, cm^2$

So thickness $h = \dfrac{m}{\rho A} = \dfrac{3.746}{2.699 \times 929} = 0.00149 \, cm = 14.9 \, \mu m.$