



Coffee Break Training - Fire Protection Series

Inspection Techniques: Weight of Aerosol Container Contents

No. FP-2012-42 October 16, 2012

Learning Objective: The student shall be able to convert the net weight of individual aerosol containers for the purpose of applying fire code requirements.

Some aerosol products that contain flammable propellants or products are regulated by the model fire codes to minimize the impact of an unwanted fire that may cause these pressurized cylinders to rocket through a space.

The fire codes typically establish minimum fire protection and safety requirements when the aggregate amount of flammable constituents in the storage or display area exceeds 500 pounds (227 kilograms (kg)). However, most aerosol products are sold in liquid form, so how does one convert the liquid volume to pounds or kilograms to properly apply the fire codes?

According to the National Fire Protection Association (NFPA) 30B, Code for the Manufacture and Storage of Aerosol Products, the amount of product listed on the label should always be used as the base for calculating the total net weight. When dealing with small quantities of aerosols, the total net weight is the sum of the individual container net weights.



The net weight of the product and propellant in these aerosols is used to establish fire code requirements.

US Customary Units

Cans	Unit Weight	Ounces	Conversion Factor	Total (lb)
50	7 oz	350	350/16 oz/lb	21.9
75	10 oz	750	750/16 oz/lb	46.9
120	14 oz	1,680	1,680/16 oz/lb	105.0

Total Net Weight 173.8

SI Units

Cans	Unit Weight	Total (kg)
50	198 g	9.9
75	284 g	21.3
120	397 g	47.6

Total 78.8

For larger quantities, such as in storage occupancies, the number of cases per pallet and the number of individual cans per case can be used as shown in this example:

US Customary Units

$$\frac{12 \text{ oz per unit}}{16 \text{ oz/lb}} \times 12 \text{ units per case} \times 75 \text{ cases per pallet} \times 20 \text{ pallets} = 13,500 \text{ lb}$$

SI Units

$$\frac{340 \text{ g per unit}}{1,000 \text{ g/kg}} \times 12 \text{ units per case} \times 75 \text{ cases per pallet} \times 20 \text{ pallets} = 6,120 \text{ kg}$$

For additional information, refer to NFPA 30B, Annex A.



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