



Aboveground Diesel Fuel Tank – Material and Thickness

Steel thickness of aboveground diesel fuel tank (also known as atmospheric fuel tank) depends on tank capacity required by the user.

The recommended material for diesel fuel tanks are any of the following:

1. Stainless steel – expensive
2. Carbon steel – common
3. Fiberglass Reinforced Plastic (FRP) – preferred by gas stations as underground tanks.

In automotive applications, vehicle fuel tanks are made of any of the following:

1. Aluminum
2. High Density Polyethylene (HDPE) plastic

Atmospheric fuel tanks are rated up to 5 psig pressure.

The UL 142 requirements on steel thickness for horizontal atmospheric tanks are specified on its Table 13.1 as follows:

Tank capacity (kL)	Maximum diameter (m)	Minimum steel thickness (mm)	
		Carbon steel	Stainless steel
2.08 or less	1.22	2.36	1.80
2.14 – 4.16	1.63	3.12	2.18
4.17 – 34.07	1.93	4.24	2.92
4.17 – 132.49	3.66	6.10	4.01
132.50 – 189.27	3.66	9.27	6.10

Paragraph 13.1.2 of UL 142 also required that the overall length of a horizontal tank shall not be greater than six times its diameter.

UL – Underwriters Laboratories

UL 142 – Steel Aboveground Tanks for Flammable and Combustible Liquids