

USE OF PROTECTED ABOVEGROUND TANKS FOR FUEL STORAGE INSIDE BUILDINGS DESIGNED TO FUEL EQUIPMENT

The following is intended to provide an alternative storage method for combustible liquids used in closed systems to fuel equipment such as emergency generators and fire pumps without having to meet liquid storage room requirements.

DEFINITIONS

APPROVED PROTECTED ABOVEGROUND TANK

is a tank listed in accordance with UL 2085 "Protected Aboveground Tanks for Flammable and Combustible Liquids," consisting of a primary tank provided with protection from physical damage and fire-resistive protection from a high intensity liquid pool fire exposure.

CLOSED SYSTEM is a system that does not allow liquid or vapors to escape from it under ordinary conditions of use or handling.

COMBUSTIBLE LIQUID is a liquid having a flash point at or above 100 degrees Fahrenheit (F_{∞}). Class II combustible liquids are those having closed cup flash points at or above 100 F_{∞} and below 140 F_{∞} . Class II-A combustible liquids are those having closed cup flash points at or above 140 F_{∞} and below 200 F_{∞} .

When combustible liquids are used in closed systems for fueling equipment such as emergency generators and fire pumps, the requirements of the International Building Code Section 307.5 for Group H, Division 3 occupancy and International Fire Code Section 3404.3.7 for liquid storage rooms, may be waived provided all of the following conditions are met:

1. The combustible liquids shall be stored only in approved protected aboveground tanks.
2. In Groups A, B, E, I, M, and R occupancies, aboveground tanks storing combustible liquids shall be located in accessory use areas such as parking garages, storage, boiler and mechanical rooms, maintenance shops, and rooftop locations.
3. Individual tank capacities shall not exceed 240 gallons.
4. Aggregate quantity of combustible liquids in approved protected aboveground tanks in a single building shall not exceed 660 gallons.
5. The room where the tank(s) is located shall be protected by automatic sprinklers.
6. When an approved protected aboveground tank is located in an area subject to possible vehicular damage and the tank listing does not include vehicle impact protection, guard posts or other approved means shall be provided in accordance with IFC Section 3404.2.9.6.5.
7. Approved protected aboveground tanks shall be provided with integral secondary containment that is a component of the tank as required by UL 2085 Section 1.4. The method of monitoring and the capacity of the secondary containment shall be in accordance with IFC Section 3404.2.9.6.4.
8. Fill connections shall be located outside buildings, at least 5 feet from building openings and property lines, provided with a liquid-tight cap, and protected from possible vehicular damage. A metallic pipe shall extend to within 6 inches of the bottom of the tank to minimize the generation of static electricity. [see IFC Section 3404.2.7.5.5]
9. Tank overfill prevention shall be provided, including an audible or visual alarm signal at the fill location to indicate when the tank is 90 percent full and automatic shut off of the flow of fuel when the quantity of liquid in the tank reaches 95 percent of tank capacity. [see IFC Section 3404.2.9.6.6]
10. The fill pipe shall be provided with a means for making a direct connection to the supply tank vehicle's fuel-delivery hose so that the delivery of fuel is not exposed to the open air during the filling operation. Where any portion of the fill pipe exterior to the tank extends below the level of the top of the tank, a check valve shall be installed in the fill pipe not more than 12 inches from the fill hose connection. [see IFC Section 3404.2.9.6.7]