



## Section 5

### Permanent, Aboveground Storage Tanks for Flammable and Combustible Liquids

These requirements shall be followed when a permanent, aboveground flammable or combustible liquid storage tank is installed, replaced or moved within the City of Kerrville.

All aboveground flammable or combustible liquid storage tank installations shall conform to the *International Fire Code* as adopted by the City of Kerrville, Texas, as well as state and federal requirements.

No aboveground flammable or combustible liquid storage tank(s) or associated equipment may be installed, replaced or located on the site until a construction permit is approved and issued for the location.

#### 2306.2.3 Above-ground tanks located outside, above grade.

*Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquid motor fuels except as provided by this section.*

1. *Above-ground tanks used for outside, above-grade storage of Class I liquids shall be listed and labeled as protected\* above-ground tanks and be in accordance with Chapter 57. Such tanks shall be located in accordance with Table 2306.2.3.*

*\*NOTE: A protected above ground tank is a tank meeting the requirements of [2018 IFC] Section 5704.2.9.7 and is listed in accordance with U. L. 2085<sup>1</sup>.*

2. *Above-ground tanks used for above-grade storage of Class II or IIIA liquids are allowed to be protected above-ground tanks or, when approved by the fire code official, other above-ground tanks that comply with Chapter 34. Tank locations shall be in accordance with Table 2206.2.3.*
3. *Tanks containing fuels shall not exceed 12,000 gallons (45 420 L) in individual capacity or 48,000 gallons (181 680 L) in aggregate capacity. Installations with the maximum allowable aggregate capacity shall be separated from other such installations by not less than 100 feet (30 480 mm).*
4. *Tanks located at farms, construction projects, or rural areas shall comply with Section 3406.2.*

#### Tank Venting

1. *The use of a flame arrester or venting device in a vent line shall comply with their listing also compliant with API 2028 for a flame arrestor.*
2. *Tank's normal vent shall not be less than 12 ft. above adjacent grade, at least 5 ft. from building openings and property lines and not located to trap vapors under building eaves.*
3. *Tank vent piping shall not be manifolded unless required for special purposes such as vapor recovery, vapor conservation or air pollution control.*
4. *Tank emergency vent shall not vent inside a building.*

#### Openings Other Than Vents

5. *Filling, emptying, and vapor recovery openings shall be located outside the building, not less than 5 ft. from building openings or lot lines.*
6. *For top load tanks, a metallic fill pipe shall be installed to minimize static electricity by terminating within 6 inches of the tank bottom.*
7. *Tank openings shall be on the top only.*

<sup>1</sup> 2018 International Fire Code Commentary

8. A spill container with a capacity of not less than 5 gallons shall be provided for each fill connection. Top fill containers are noncombustible, fixed to the tank and equipped with a manual drain valve that drains into the main tank.

### **Overfill Requirements**

9. A tank storing Class I, II, IIIA liquids outside a structure shall be equipped with a device or means to prevent overflow.
10. Outside tanks with a volume of more than 1,320 gallons that contain Class I, II, or IIIA liquids shall have an approved overfill prevention system.
11. Tanks storing Class I, II, and IIIA liquids inside a building shall be equipped with a device to prevent overflow into the building and are not limited to a float valve, a preset meter in fill line, or a valve actuated by the weight of the tank's content.

### **Piping**

12. Connections to tank that are below the liquid level shall be provided with an internal or external control valve near the tank shell.
13. Tank piping shall be supported and protected from mechanical damage or fire exposure.
14. Pipe joints shall be liquid tight, welded, threaded or flanged. Class 1 liquid joints are welded if the joints are located inside the building.
15. Pipe testing criteria shall be detailed on the plans, hydrostatic tested to 150 percent of the system design pressure or pneumatically tested to 110 percent of the system design pressure for a minimum of 10 minutes with no leakage.
16. Piping shall be labeled in accordance with ANSI A13-1
17. Fill pipe connection shall be designed to provide a direct connection to the vehicle's fuel delivery hose so fuel is not exposed to the air during filling.

### **Valves**

18. Piping shall have sufficient number of control valves and check valves to control the flow of liquids.
19. Any portion of the fill pipe below the top of the tank, a check valve shall be installed at the fill pipe not more than 12 in. from the fill hose connection.

### **Miscellaneous**

20. Plans show location and verbiage for signs prohibiting open flames and no smoking.
21. Tanks exceeding 100 gallons have *NFPA 704* placard location and content detailed on the plans.
22. Tank and piping subject to vehicular damage is protected by guard posts designed in accordance with *IFC*.
23. Drainage control and diking are provided along with containment capacity calculations unless technical report is provided stating no hazard exists, or the tank is a listed tank with secondary containment.

### **Submittal Requirements**

24. All submittals will be on-line through MYGOVERNMENTONLINE.ORG. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review. Plans and specifications/cut sheets shall be submitted in PDF Format into the online platform. A second set of plans shall be submitted on paper at the request of AHJ if needed. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review.
25. Each submittal shall have a completed:
  - a. Kerrville Fire Marshal Permit Application (Online)
  - b. TCEQ Permit for tanks over 1,100 gallons
  - c. Copy of Contractors State of Texas License for tanks over 1,100 gallons
26. Provide a written description of the operation of the tank.
27. Site plan drawings of the installation location and layout, to include:
  - a. Primary and emergency power hookups (if provided)
  - b. All buildings and structures
  - c. Fire lanes and fire hydrants
  - d. Location(s) of other dispensing locations (if remote) and other tanks (if provided)
28. A full equipment listing of all tanks, piping, valves, and other equipment.
29. Manufacturer documentation for all parts and materials used in the project, this is to include the pumps, relief valves, and tank.

30. Plan drawings shall show both plan view, section view, and other pertinent information.
31. Plan drawings shall be generated by the installing company, and shall not be copied and marked according to installation.
32. Provide documentation of tank testing and ability to hold a vacuum. This is in addition to any testing required by the Fire Marshal.