



# Building Standards and Codes

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## TECHNICAL BULLETIN

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**Source Document:** **The Uniform Fire Prevention and Building Code -19NYCRR 1220 which incorporates the 2015 International Residential Code (IRC)** modified by the 2016 Supplement (and 2017 Supplement which will become effective 10/31/2017)

### **Topic: Installation of double walled polyethylene and steel fuel oil storage tanks**

This technical bulletin clarifies the applicability of the IRC, (comprised of the 2015 IRC and applicable 2016 and 2017 Uniform Code Supplements) and the installations of polyethylene and steel fuel oil storage tanks. Specifically, this bulletin addresses whether such tanks can be located above-ground and inside the building it serves, or outside of a building and above-ground. It is our opinion that a double walled, polyethylene and steel fuel oil storage tank can be approved under the requirements of the IRC and that this type of tank can be installed in the locations described.

The IRC, Chapter 22 addresses the piping and storage systems for residential fuel oil. The IRC Section M2201.1 *Materials*, specifies that oil supply tanks be listed and labeled, and shall conform to UL 58 (1996 Edition)<sup>1</sup> for underground tanks and UL 80 (2007 Edition) for indoor tanks. The IRC, Section M2201.1 further describes requirements for above ground tanks, citing NFPA 31 when exceeding 660 Gallons. Although NFPA 31 is cited for large capacity tanks, it is our opinion that NFPA 31 can also be applicable for smaller capacity tanks as well, since tanks of smaller capacity are specifically identified within the reference standard for installation inside of buildings and outside of buildings.

### **IRC Requirements for Indoor Tanks (See IRC Section 2201.2.1, Tanks within Buildings):**

Reference Standard NFPA 31 (2011) lists a series of standards which apply to polyethylene and steel fuel oil storage tanks. Within NFPA 31, references are made to *UL 142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids*, and *SU 2258, Outline of Investigation for Tanks for Oil Burner Fuel – Non-metallic*. Since NFPA 31 is a referenced standard of the IRC, UL 142 and SU 2258 are also considered as the acceptance criteria for verifying the listing and labeling of the above-ground tanks. See 2016 and 2017 Uniform Code Supplements, Chapter 1, General Requirements, Section 103.1 for the requirements for approved materials, equipment and devices.

<sup>1</sup> ICC has confirmed that the correct Reference standard which is applicable to Section M2201.1 is UL 58 (1996)

The following portions of NFPA 31 Section 7.5 have applicability to installation of fuel oil storage tanks inside buildings. This **is not** a complete listing of the requirements of the reference standard, which must be consulted for the specific conditions of each installation.

Section 7.5.4: A tank that exceeds 60 gallons' capacity shall be installed on the lowest floor (story, cellar, or basement) of a building, except as provided for in 7.5.5.

Section 7.5.5: A maximum of 660 gallons of storage tank capacity shall be permitted to be installed on a higher floor provided the following conditions are met:

- (1) The higher floor does not have any floor or open space directly below it.
- (2) The higher floor is provided with a liquid tight sill, containment device, or equivalent means having the ability to hold a minimum of 15 percent of the aggregate tank capacity to prevent spilled fuel oil from entering an adjacent, lower area.

Section 7.5.7 Tanks of a capacity between 10 gallons and 1320 gallons shall not be placed within 5 feet horizontally from any open flame, or fuel burning appliance, unless separated from the source of heat by a barrier having a 1 hour fire resistance rating extending horizontally at least 1 foot past the liquid fuel burning appliance, or the tank whichever is greater, and extending vertically, floor to ceiling.

### **IRC Requirements for Outdoor Tanks (See IRC Section 2201.2.2, Outside, above-ground tanks):**

The IRC, Section M2201.2.2 states that outside, above-ground fuel oil storage tanks are permitted provided that they are a minimum of 5 feet from an adjoining property line and are suitably protected from the weather and physical damage. The following portions of NFPA 31 Section 7.8, have applicability to outside, above ground tanks. This **is not** a complete listing of the requirements of the reference standard, which must be consulted for the specific conditions of each installation.

Section 7.8 2: A tank or tanks whose capacity does not exceeds 660 gallons shall be permitted to be installed outside of and adjacent to a building provided they are separated from the nearest line of adjoin property by the following minimum distance;

1. 5 feet for tanks not exceeding 275 gallons' capacity
2. 10 feet for tanks greater than 275 gallons' capacity, but not exceeding 660 gallons' capacity.

Section 7.8 3: A tank whose capacity exceeds 660 gallons shall be installed in accordance with the applicable requirements of Chapter 22 of NFPA 30 *Flammable and Combustible Liquids Code*.

Section 7.8.4: Outside above ground tanks and their appurtenances and supports shall be protected from external corrosion by a coating suitable for exterior use.

In summary, polyethylene and steel fuel oil storage tanks that are listed and labeled for installation and use as fuel oil storage are permitted to be installed for use in the State of New York.

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