NFPA 30 Flammable Liquids – Quick Tips



The mission of the National Fire Protection Association (NFPA) is to help save lives and reduce loss with information, knowledge and passion. NFPA is a trade association established in 1896 that creates and maintains over 300 private, copyrighted standards and codes aimed at eliminating death, injury, property and economic loss due to fire, electrical and related hazards. NFPA also conducts research, training, education, outreach and advocacy that are designed to minimize the risk and effects of fire by establishing criteria for building, processing, design, service and installation around the world.

What is NFPA 30?

On August 17, 2017, the NFPA Standards Council issued the 2018 edition of NFPA 30: Flammable and Combustible Liquids Code with an effective date of September 17, 2017. NFPA 30 provides fundamental safeguards for the storage, handling and use of flammable and combustible liquids, including waste liquids. It is the best practice widely used in industry and by insurers.

The 2018 edition highlights 19 notable changes from the 2015 edition. Most of the changes clarify the Code's intent and help reduce conflicts or confusion. Other changes provide essential safety updates and references to current Underwriter Laboratory (UL) standards, as well as completely revised requirements for General Purpose Warehouses to only allow specific liquid/container combinations to be stored in such facilities. Other key changes include:

- Nonmetallic intermediate bulk containers are now recognized as meeting the fire exposure test protocols found in 9.4.1.1.
- Subsection 18.5.4 has been completely revised to reflect current maximum allowable quantities (MAQs) found in section 9.6.
- Definitions of "rack," "rack bay," and "rack section" have been added to section 3.3.
- Definitions of "protected" and "unprotected" as they related to storage of containers have been modified.
- UL standard 2368 and FM Class 6020 has been referenced in paragraph 9.4.1.1 and deleted from Table 9.4.3 and added to subsection 16.3.7.
- UL standard 1275 and FM Class 6050 has been referenced in paragraph 9.4.3(4).
- Provisions have been added to section 12.8 General Warehouses that only allow specific liquid/container combinations to be stored in such facilities.
- The requirement to use foam-water sprinkler system designed in accordance to NFPA 16 has been removed from paragraph 16.5.1.6.
- Alternative means to calculate the water demand for the most hydraulically remote in-rack sprinklers were added to paragraph 16.6.4.4(3).

- Reference to the single horizontal barrier was removed in paragraphs 16.6.2.4(3) and 16.6.2.4(4).
- Alternate means were added to calculate the water demand for the most hydraulically remote in-rack sprinklers to paragraph 16.6.3.4(3).
- Text relating to listed flexible connectors was removed from subsection 18.4.7 to avoid duplication found in subsection 27.5.2.
- A new paragraph 19.7.2.2.2 adds a requirement that nonmetallic cooking oil tanks be listed in accordance with UL standard 2152.
- The requirement of permitted means of securing cooking oil tanks was clarified in paragraph 19.7.3.2.1.
- Paragraph 21.4.3.4 was amended to eliminate a potential conflict with paragraph 21.4.2.1.2.
- The reference to API 1604 found in paragraph 21.7.4.3.1 was moved to Annex A.21.7.4.3.1.
- The required separation distance between liquid storage tanks and LP-Gas containers was amended in paragraph 22.4.2.4.2 to match requirement found in NFPA 58.
- A requirement that flexible connectors be listed in accordance with UL standard 2039 was added to subsection 27.5.2.
- The extinguisher’s weight was replaced with its rating as the appropriate criteria was amended in paragraph 29.3.28.4. Existing extinguishers provided on a weight basis are allowed to remain in service.

NFPA 30 Handbook: The NFPA Handbook is a companion to the NFPA 30 code. It includes the texts of both NFPA 30 and NFPA 30A (Code for Motor Fuel Dispensing Facilities and Repair Garages) with added expert commentary that explains the provisions of the standards. It also adds hundreds of visuals, including full-color photographs that help visualize concepts, more detailed descriptions of the changes made from the 2015 edition and various other enhancements to help better understand the NFPA 30 provisions.

What Was New in the 2015 Edition of NFPA 30?

The 2015 edition of NFPA 30 highlighted 11 notable changes from the 2012 edition. Most notable of these changes is the definition of a safety can. It has been amended to incorporate a screen/strainer in each fill and pour opening. Other changes to the 2015 edition of NFPA 30 include:

- The definition of “safety can” has been amended to incorporate a screen/strainer in each fill and pour opening.
- A new storage height restriction of 12 feet for unprotected storage in mercantile occupancies.
- Numerous amendments to Chapter 16 to eliminate inconsistencies between NFPA 30 and NFPA 13: Installation of Sprinkler System rules.
- Separation distances were increased between process vessels and adjacent important buildings and property lines as recommended by the U.S. Chemical Safety and Hazard Investigation Board.
- A new subsection was added to cover hand-operated pumps to dispense liquids that require the use of compressed air.
- A new section governs the installation of bulk cooking oil storage and dispensing systems for use in commercial kitchens.
- The use of a weak roof-to-shell seam was eliminated as a means of emergency venting for aboveground steel storage tanks.
- A maximum capacity of 50,000 gallons was set for all secondary containment type storage tanks for Class I, Class II and Class IIIA liquids.
- Provisions for the use of low melting point piping material were strengthened.

- Added additional requirements for those responsible for loading and unloading tank vehicles.
- Security of storage tanks in remote areas is now addressed in Annex A.

Frequently Asked Questions

Q: What is a safety can?/b>

A: NFPA 30 paragraph 3.3.49 defines a **safety can** as a listed container of not more than 5.3 gallons (20 liters) capacity having a screen or strainer in each fill-and-pour opening and having a spring-closing lid and spout cover designed to safely relieve internal pressure when exposed to fire.

Q: Are wooden cabinets acceptable for flammable storage?

A: NFPA 30, chapter 9.5.3(3) states, “Wooden cabinets constructed in the following manner are acceptable. The bottom, sides and top shall be constructed of exterior grade plywood at least 1 inch (25 millimeters) in thickness, which shall not break down or delaminate under fire conditions. All joints shall be rabbeted and shall be fastened in two directions with wood screws. When more than one door is used, there shall be a rabbeted overlap of not less than 1 inch (25 millimeters). Doors shall be equipped with a means of latching, and hinges shall be constructed and mounted in such a manner as to not lose their holding capacity when subjected to fire exposure. A raised sill or pan capable of containing a 2 inch (50 millimeter) depth of liquid shall be provided at the bottom of the cabinet to retain spilled liquid within the cabinet.”

Q: Do flammable liquid storage cabinets have to be vented?

A: NFPA 30, paragraph 9.5.4 states that a flammable liquid storage is not required to be vented for fire protection purposes. Paragraph 9.5.4.2 states if the storage cabinet is vented for any reason, the vent openings must be ducted directly to a safe location outdoors or to a treatment device designed to control volatile organic compounds (VOCs) and ignitable vapors in such a manner that will not compromise the specified performance of the cabinet and in a manner that is acceptable to the authority having jurisdiction.

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