



# Flammable and Combustible Liquids – Storage Cabinets

NFPA 30, Flammable and Combustible Liquids Code (2015 revision), published by the National Fire Protection Association (NFPA), provides requirements for the design and capacity limitations of cabinets used to store flammable and combustible liquids. This handout provides guidelines for the construction and capacity limitations for such storage cabinets.

## Cabinet Construction

NFPA 30 provides four options for flammable and combustible liquids storage cabinet construction. A cabinet is acceptable if it: (1) meets the general performance requirements established in the code; (2) is of metal and constructed according to specifications defined in the code; (3) is of wood and constructed according to specifications defined in the code; or (4) is a listed cabinet that has been tested by a nationally recognized testing laboratory.

### General Performance Requirements

The cabinet should be designed so that the internal temperature, measured at several centralized points within the cabinet, does not exceed 325°F (163°C), when exposed for ten minutes to a standard fire test. During and after such exposure, all walls, seams, and joints of the cabinet should remain intact and the doors should remain closed and sealed.

### Metal Cabinet Construction

A metal cabinet should be constructed of at least 18-gauge sheet metal; have a double-walled shell, including the door assembly, with a 1.5-in (38-mm) air gap between the outer and inner walls. Doors should be provided with a three-point latching mechanism, and the opening should have a 2-in (50-mm) raised sill, above the cabinet floor, to contain spilled liquids. Seams and joints should be riveted, welded, or otherwise bonded to form a tight seal.

### Wood Cabinet Construction

Cabinets constructed of wood should use exterior grade plywood that is 1 in (25 mm) or thicker. The plywood should be of a type that will not delaminate or separate when exposed to a standard fire test. Doors should be provided with a latching mechanism that will maintain the door seal when exposed to fire and an opening having a 2-in (50-mm) raised sill, above the cabinet floor, to contain spilled liquids. A 1-in (25-mm) rabbetted overlay, fastened by screws from two directions should be used for all joints and seams.

## Storage Limitations

NFPA 30 establishes limits on the amount of liquids that may be stored in a single cabinet and the number of cabinets allowed within a single fire area. The code states that no more than 120 gal (460 L) of Class I, II, or IIIA liquids may be stored in any single cabinet. Additionally, subsection 9.6 of the code provides for Maximum Allowable Quantities (MAQs), based on the type of liquid stored, the occupancy, fire protection employed, and the size of the storage area.



## **Additional Requirements**

NFPA 30 does not require storage cabinets to be vented; if they are vented, the vent should be directly to the outdoors or to a capture system approved by the authority having jurisdiction (AHJ). Storage cabinets should be labeled in a conspicuous manner with the word "FLAMMABLE – KEEP AWAY," using 2-in (5-cm) high letters.

NFPA 30 does not require grounding of flammable and combustible liquids storage cabinets. However, many are provided with a grounding terminal, as a matter of convenience, should the end user desire to use contact with the cabinet as a means of grounding during dispensing operations. If the cabinet is being used as part of the bonding and grounding process, all surfaces and terminals should be tested to ensure proper electrical continuity.

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