



University of Colorado at Denver and Health Sciences Center

Environmental Health and Safety Department

Guidance Note

May 2007

FLAMMABLE STORAGE CABINETS

HWG-027

This information is for your use and as a way of providing consistent information. There is no response required.

Flammable Storage Cabinets

Design

Design criteria for flammable storage cabinets is set-forth by the National Fire Protection Association (NFPA). While cabinets may come in a variety of shapes and sizes, the basic design remains the same. The following lists the main components required for a cabinet to meet the “approved” status.

- ◆ The top, bottom, sides, and door shall be No. 18 gauge sheet steel, and shall be double-walled with 1 ½ inch air space.
- ◆ Joints shall be riveted, welded, or made tight by some equally effective means.
- ◆ The door shall be provided with a three-point latch arrangement.
- ◆ The door sill shall be raised at least 2 inches above the bottom of the cabinet to retain spilled liquid within the cabinet.

Additional notations

- ◆ The cabinet may not have holes drilled, unless the design allows for holes (such as mounting to walls).
- ◆ Newer flammable liquid cabinets will have self-closing doors.
- ◆ Many cabinets are labeled as having been tested by Factory Mutual (FM) or Underwriters Laboratories (UL).
- ◆ Storage cabinets that are designed and constructed to limit the internal temperature at the center of the cabinet and 1 inch from the top of the cabinet to not more than 325 ° F when exposed to a 10-minute fire test that simulates the fire exposure of a standard time-temperature curve (specified in NFPA 251) shall be considered acceptable.

Markings

Storage cabinets shall be marked in a conspicuous lettering: “FLAMMABLE—KEEP FIRE AWAY.” (Older cabinets may simply indicate “Flammable Materials” or some equivalent warning.)

Venting

Storage cabinets shall not be required by the code to be vented for fire protection purposes, and vent openings shall be sealed with the bungs supplied with the cabinet. If the cabinet is vented, it shall be vented directly outdoors 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.

Additional Venting information from Appendix of NFPA 30: Venting of storage cabinets has not been demonstrated to be necessary for fire protection purposes. Additionally, venting a cabinet could compromise the ability of the cabinet to adequately protect its contents from involvement in the fire since cabinets are generally not tested with any venting. If...based on the authority having jurisdiction, the cabinets are vented, the cabinet should be vented from the bottom, with make-up air supplied to the top. Also, mechanical ventilation is preferred, and should comply with NFPA 91, *Standard for Exhaust Systems for Air Conveying of Materials*. Manifolding the vents of multiple storage cabinets should be avoided.