

EN 14470-1 & FM SAFETY CABINETS for flammables

EN 14470-1

FM 6050



WORLD PREMIERE!

1 cabinets = 2 norms

EN 14470-1 FM 6050

FM

FM (6050) NORM:

Introduction

The Factory mutual FM standard (6050), defines the required criteria for a safety cabinet to be suitable for the storage of flammable chemicals. The requirements of this Standard are based on experience, research and testing, and in large part on NFPA 30 "Flammable and Combustible Liquids Code" (U.S.A.). Storage capacity of a cabinet for flammable and combustible liquids shall not exceed 120 gallons (455 L)

Main requirements

1. Fire protection

The cabinet shall prevent stored flammable liquids to increase the fire risk or the fire spreading over at least 10 minutes.

2. Fire testing

FM(6050) sample cabinets shall be subjected to a 10-minute fire exposure test. Internal cabinet temperature shall not exceed 325°F (163°C) during the all test duration. Compliance tests are made at the FM standard location and under the monitoring of the FM standard staff.

3. Spill containment

The cabinet shall be equipped with a spill containment sump. It shall be at least 2 in. (51 mm) deep and leak-tight. The leak-tight property of the containment sump shall be approved by FM.

4. Construction

Cabinets shall be of double wall steel or single wall wood construction. In case of a steel construction, a 1½ in. (38 mm) gap shall be kept between the inner and the outer panels. In case of wood construction, the wood thickness shall not be less than 1 in. (25 mm) thick. Ecosafe EN/FM standard cabinets are made out of 1½ in. (38 mm) thick wood. This is a 50% thicker wood than what is required by the FM standard!

Door(s) of the cabinet shall be equipped with a lockable, non-sparking, three-point latching mechanism. The cabinet may be equipped with a self-closing mechanism. A means for holding the door(s) open is provided. This device shall automatically release the doors if the temperature rises above 212°F (100°C). This mechanism is tested over 100 operational cycles by the FM standardization agency.

5. Markings

Cabinets shall, as a minimum, be labeled with the manufacturer's name, address, model number, and maximum liquid storage capacity. All Approved cabinets shall be labeled with an FM Approval Mark. Cabinets shall be labeled with the conspicuous legend: FLAMMABLES - KEEP FIRE AWAY

6. Vent

FM Cabinets shall be equipped with vents. All vents shall be equipped with a flame arrester or any other means aiming at closing these vents in the event of a fire.



RANGE 3030

EN 14470-1 FM 6050

EN 14470-1 & FM SAFETY CABINETS for flammables



Self-closing door(s) with thermo-fuse



Adjustable retention shelf



Pedestal area under-driveable by a forklift



Base trough with perforated cover plate⁽¹⁾



Normalized label

CONFORMITY

- Tested and approved according to EN 14470-1 (04/2004) and EN 1363-1 (06/2000).
- Tested and approved according to FM 6050 (Factory Mutual international).
- Normalized labelling according to ISO 3864, EN 14470-1 (04/2004) and FM 6050 norms, and 92/58/CEE european directive.

ADVANTAGES

- Fire resistance during 30 minutes in accordance with ISO 834 fire heating curve.
- Pedestal area under-driveable by forklift by removing panel (except under-bench models).
- Cabinets with self-closing doors. The fusible links hold doors wide open melt at 43°C (109°F) for automatic closure.
- Many models are available.

PASSIVE SECURITY

- Built in melamine-based wood : high chemical resistance.
- Body in grey colouring (RAL 7035), edges in yellow colouring (RAL 1023).

- Large warning label.
- Adjustable in height steel retention shelves.
- Base trough at the bottom.

ACTIVE SECURITY

- Air inlet and outlet with Ø 100 connecting pieces for possible exhaust.
- Self-closing doors. Possibility to keep the doors open. If the temperature rises to 43°C, a fuse link closes the doors automatically.
- 3 points lock with fail-safe closing mechanism and locking handle.
- Adjustable leveling legs.

OPTIONS

- Additional retention shelf.
- Perforated cover plate for base trough.
- Extractable drawer.
- Surprotections en PVC.
- Ventilation or Filtration boxes.
- Absorbing carpets (model no. JF10D).



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EN 14470-1

EN 14470-1 NORM:

Introduction

The new European norm came into force in October 2004 and concerns the storage of flammable products in laboratories. It also only concerns the safety cabinets with a storage capacity of 1m³ or less.

Main requirements

1. Fire protection

The cabinet shall prevent stored flammable liquids to increase the fire risk or the fire spreading over at least 15 minutes. A fire safety storage cabinet shall be classified as one of the types listed below: 15, 30, 60 or 90-minute fire resistant.

2. Fire testing

All cabinets described in this brochure have succeeded a fire test destruction in according to EN 14770-1 (2004) norm. These tests were monitored by an independant laboratory accredited by COFRAC.

3. Spill containment

A spill containment sump shall be installed underneath the lowest storage level. The sump shall have: a minimum capacity of 10% of the volume of all containers stored in the cabinet; or at least, 110% of the volume of the largest single container, whichever is the greater.

4. Construction

The doors of the cabinet must be fully self-closing from any position. The side and back walls must be of the same thickness and comparable construction. Requirements are given in respect of the construction of the cabinet and its capacity to resist fire conditions from the outside (Fire test given in ISO 834-1 and EN 1363-1).

5. Markings

Cabinets must be fitted with its label: standardized pictograms in accordance with standard ISO 3864: flammable materials, open flame and smoking prohibited, permissible maximum load per shelf, the largest container can be inserted into the cabinet, fire resistance model (15, 30, 60 or 90-minute) capacity maintains closed when the cabinet door is not used, etc.

6. Vent

Safety Cabinets must have air inlet and outlet as well as a thermo-fuse which seals off the ventilation system in case of fire. These could be used to connect a forced ventilation system. The air renewal must be at least 10 times the volume of the safety cabinet/hour (closed doors).



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CABINETS WITH EQUIPMENTS

P/n	Description	External dim. H x W x D	Internal dim. H x W x D	Storage capacity	Retention capacity	Number of shelves	Weight
3031E	Under-bench cabinet, one door	635 x 605 x 630 mm 25" x 24" x 25"	366 x 491 x 419 mm 14 ³ / ₈ " x 19" x 16 ¹ / ₂ "	30 L 8 Gal.	20 L 5 Gal.	-	64 kg 141 Lbs.
3032E	Under-bench cabinet, two doors	635 x 1115 x 630 mm 25" x 44" x 25"	366 x 1001 x 419 mm 14 ³ / ₈ " x 39 ³ / ₈ " x 16 ¹ / ₂ "	60 L 16 Gal.	41 L 10 Gal.	-	108 kg 238 Lbs.
3034E	Tall cabinet, one door	1980 x 605 x 550 mm 78" x 24" x 22"	1581 x 491 x 419 mm 62" x 19" x 16 ¹ / ₂ "	130 L 34 Gals.	20 L 5 Gal.	3	117 kg 258 Lbs.
3035E	Tall cabinet, two doors	1980 x 1115 x 550 mm 78" x 44" x 22"	1581 x 1001 x 419 mm 62" x 39 ³ / ₈ " x 16 ¹ / ₂ "	250 L 68 Gals.	41 L 10 Gal.	3	210 kg 463 Lbs.
3033UE	Working cover cabinet, two doors	1198 x 1092 x 537 mm 48" x 43" x 21"	799 x 978 x 325 mm 31 ¹ / ₂ " x 39 ¹ / ₂ " x 12 ³ / ₄ "	113 L 30 Gals.	31 L 8 Gal.	1	170 kg 375 Lbs.
3035UE	Tall cabinet, two doors	1731 x 1092 x 457 mm 68" x 43" x 18"	1332 x 978 x 325 mm 52 ⁵ / ₈ " x 38 ¹ / ₂ " x 12 ³ / ₄ "	170 L 45 Gal.	31 L 8 Gal.	2	210 kg 463 Lbs.
3036UE	Tall cabinet, two doors	1731 x 864 x 864 mm 68" x 34" x 34"	1332 x 750 x 733 mm 52 ⁵ / ₈ " x 29 ¹ / ₂ " x 28 ³ / ₄ "	228 L 60 Gal.	54 14 Gal.	2	210 kg 463 Lbs.

EXTRA-ACCESSORIES

P/n	Description	External dim. H x W x D	Storage capacity	Weight
E703148	Additional steel shelf for 3034E	30 x 490 x 410 mm 1 ¹ / ₈ " x 19 ¹ / ₈ " x 16 ¹ / ₈ "	6 L 1 ⁵ / ₈ Gal.	3 kg 4 Lbs.
E703235	Additional steel shelf for 3035E	30 x 992 x 410 mm 1 ¹ / ₈ " x 39" x 16 ¹ / ₈ "	12 L 3 ¹ / ₈ Gal.	6 kg 13 Lbs.
E30335U	Additional steel shelf for 3033UE or 3035UE	30 x 975 x 317 mm 1 ¹ / ₈ " x 38 ³ / ₈ " x 12 ¹ / ₂ "	9 L 2 ³ / ₈ Gal.	4,5 kg 10 Lbs.
E3036U	Additional steel shelf for 3036UE	30 x 747 x 724 mm 1 ¹ / ₈ " x 29 ³ / ₈ " x 28 ¹ / ₂ "	16 L 4 ¹ / ₈ Gal.	8 kg 18 Lbs.

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**ECOSAFE**

Tel: +41 (0)21 694 10 04
Fax : +41 (0) 21 694 10 00
www.ecosafesa.com sales@ecosafesa.com

Chemin des Champs Courbes 15
Zone Industrielle de Vallaire Est
CH-1024 - Ecublens (Switzerland)
www.ecosafesa.com