



I. SAFETY CABINETS EN 14470-1 EN 14470-2 FOR FLAMMABLE AND EXPLOSIVE PRODUCTS AND GAS CYLINDERS

GENERAL

For obvious safety reasons, flammable and/or explosive products or gas cylinders should be stored in safety cabinets. Regardless of your field of activity, whether you store low flammability or high flammability products, low flammability or high flammability gases, they must be stored safely in order to delay the risk of explosion due to fire.

STANDARDISATION

EUROPEAN STANDARDS EN 14470-1 and EN 14470-2

SCOPE OF APPLICATION:

EN 14470-1 **EN 14470-1:** This standard, which came into force in October 2004, concerns the storage of flammable products in laboratories. It applies to cabinets with an internal volume of 1 m³ or less.

EN 14470-2 **EN 14470-2:** This standard, which came into force in April 2006, concerns the storage of compressed gas cylinders in laboratories. It applies to cabinets whose total internal volume allows the storage of gas cylinders with a total capacity of less than 220 litres.

FM 6050 (FACTORY MUTUAL): International insurance and accreditation body for fire protection equipment (through UL) and advice to companies. FM 6050 approval results in a 10 minute fire resistance for safety cabinets according to the NFPA 251-1969 temperature curve.

Article 45 of the order of 11/05/2015: All polluting liquids must be stored in tanks with a retention capacity of at least 50% of the volume of the latter, and the retention capacity for flammable or combustible liquids contained in mobile containers of 250 L or less must be at least 800 L. The containment sump must be of controlled tightness and must resist the physical and chemical properties of its container. Their storage is governed by the chemical incompatibilities and safety rules in force.

MAIN REQUIREMENTS

1. Protection against fire:

In the event of fire, the cabinet must ensure that, for at least 15 minutes, its contents will not contribute to the risk or spread of fire. 4 classes have been defined by the standard to enable the user to choose the most suitable cabinet for his needs and the level of risk assessed.

EN 14470-1 Storage of flammable liquids	EN 14470-2 Storage of gas cylinder	Fire resistance
Type 15	Type G15	15 minutes
Type 30	Type G30	30 minutes
Type 60	Type G60	60 minutes
Type 90	Type G90	90 minutes

2. Fire tests:

The cabinets presented in this part of the catalogue have undergone a fire test according to EN 14470-1 (2004) or EN 14470-2 (2006). These tests were carried out by an external laboratory accredited by COFRAC.

3. Containment volume (EN 14470-1 only):

The volume of the spill containment sump must be able to hold at least 110% of the volume of the largest container stored in the cabinet or 10% of the total volume stored.

4. Construction:

The cabinet doors shall be self-closing in any position (EN 14470-1 only). The individual walls of the enclosure must be of identical construction and of the same thickness. In addition, the requirements of the standard relate to the construction of the cabinet itself and its ability to withstand external fire conditions (fire tests carried out in accordance to ISO 834-1 and EN 1363-1).



5. Labelling:

The cabinets must be equipped with appropriate labelling: standardized warning labels in accordance to ISO 3864:

EN 14470-1: Flammable materials, no open flame and no smoking, maximum load per shelf, capacity of the largest container that can be introduced into the cabinet, fire resistance of the model (15, 30, 60 or 90 minutes), keeping the doors closed when the cabinet is not in use.

EN 14470-2: Presence of compressed gas cylinders, fire resistance of the model (15, 30, 60 or 90 minutes), keeping the doors closed when the cabinet is not in use.

6. Ventilation:

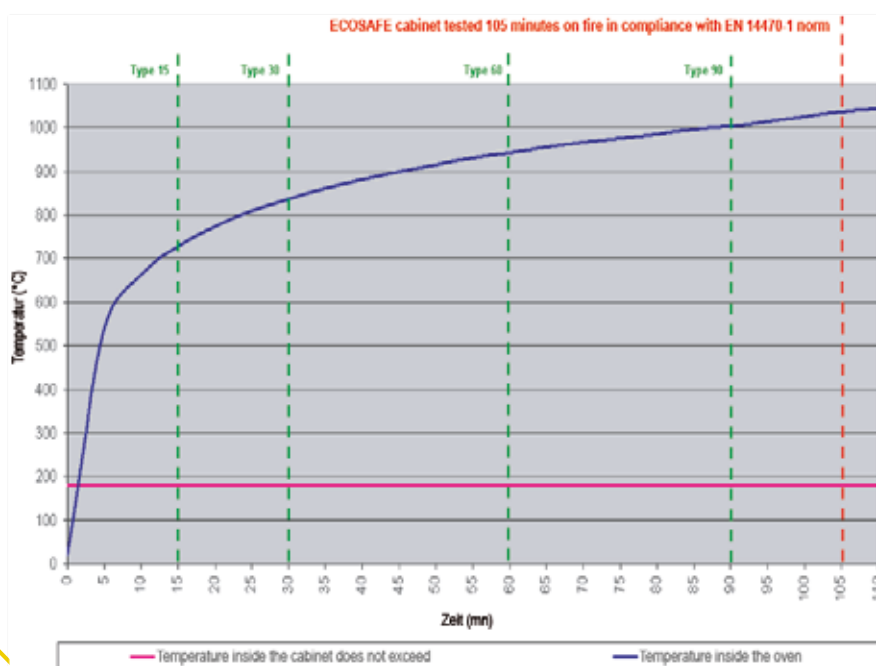
Cabinets shall be equipped with self-closing air inlets and outlets in the event of fire, allowing connection to a forced ventilation system. For a ventilated cabinet, the air exchange must be at least equal to 10 times the volume of the cabinet per hour (120 times in the case of storage of toxic gas cylinders) with the door(s) closed.

CHOOSE YOUR CABINET ACCORDING TO YOUR SECTOR OF ACTIVITY AND THE LEVEL OF FLAMMABILITY OF YOUR PRODUCTS:

Flash point ⁽¹⁾	Level of flammability	Examples of products	Recommended Cabinets	
			in industry ⁽²⁾	in the laboratory
higher than 55°C	LITTLE FLAMMABLE	Domestic fuel, diesel	Ranges 3030, 7030, 1, 2	Ranges 3030, 7030
between 21°C and 55°C	FLAMMABLE	Turpentine, white spirit	Ranges 3030, 7030, 1, 2, 3	Ranges 3030, 7030
between 0°C and 21°C	EASILY FLAMMABLE	Ethanol, toluene	Ranges 760+, 2, 5	Range 760+
under 0°C	EXTREMELY FLAMMABLE	Acetone, ether	Range 790+	Range 790+
Gas cylinder model B2, B5, B11, B20 and B50			Range 7630BG	Range 7630BG

(1) FP (flash point): the minimum temperature at which, under specified test conditions, a liquid emits sufficient gas to ignite momentarily in the presence of an ignition source.

(2) See the section of the catalog concerning our safety cabinets for flammable and explosive products.



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Fume hoods, filtering cabinets - Ventilation

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