

### What has changed since the introduction of EN 14470-2 (Safety cabinets for pressurised gas cylinders)?

Changes occurred for manufacturers and users of pressurised gas safety cabinets when European Standard EN 14470-2 came into force in 2006, as now for the first time in the history of safety cabinets this standard was to be implemented **throughout Europe**:

- **The classification of the fire resistance capability has been divided into 4 classes:**

<b>G 15</b>	<b>=</b>	<b>≥ 15 minutes</b>
<b>G 30</b>	<b>=</b>	<b>≥ 30 minutes</b>
<b>G 60</b>	<b>=</b>	<b>≥ 60 minutes</b>
<b>G 90</b>	<b>=</b>	<b>≥ 90 minutes</b>

EN 14470-2 describes the construction and safety criteria for safety cabinets to be used in **laboratories** for the storage of pressurized gas cylinders at normal room temperatures.

**However, in Germany TRG 280 (Technical Rules for Gases) applies as the basis for the storage of pressurized gas cylinders.**

**According to TRG 280 the following principles must be observed (further details and requirements can be found in TRG 280):**

#### **STORAGE (TRG 280 – 2.2):**

Storage is to be understood as keeping a stock of pressurised gas cylinders. Storage is not to be understood as connecting up pressurised gas cylinders for emptying them, or for keeping them ready for service and maintenance purposes.

#### **AVAILABILITY (TRG 280 – 2.3):**

Availability is to be understood as keeping filled pressurised gas cylinders at the places intended for their use as reserve cylinders, either connected to or ready to be connected to a gas supply device, to the extent that is necessary for allowing continuation of work. It is also to be understood as keeping filled pressurized gas cylinders at the workplace for manual gas supply.

#### **STORAGE in ROOMS (TRG 280 – 5.2):**

**Rooms intended for the storage of pressurised gas cylinders must be separated from neighbouring rooms by at least fire-retarding components. Fire-retarding components are required if fire and explosion hazards exist in neighbouring rooms not used for the storage of pressurized gas cylinders.**

**FIRE-RETARDING** in the meaning of TRG (TRG 280 – 2.11) is the fire performance of components as per DIN 4102 for an exposure period of 30 minutes (fire resistance class F 30).

**FIRE-RESISTANT** in the meaning of TRG (TRG 280 – 2.12) is the fire performance of components as per DIN 4102 for an exposure period of 90 minutes (fire resistance class F 90).

#### **BGR 120 – Guidelines for Laboratories (formerly ZH 1/119):**

**5.4.3.1** To avoid risks pressurised gas cylinders should be stored outside the laboratories if possible and the gases supplied to the workplaces via permanently laid pipelines. If this is not possible, and if pressurised gas cylinders have to be used in **laboratories with an increased fire risk** then, in the case of fire, the pressurised gas cylinders must be protected against excessive heat by taking appropriate protective measures (storage in gas cylinder safety cabinets as per DIN 12925-2 / EN 14470-2).

Even today it is not entirely clear which fire resistance capabilities apply in **laboratories** for users in Germany. The current European harmonisation of requirements and regulations is increasingly transferring the responsibility to the user. Today as manufacturers we offer safety cabinets with a fire resistance capability of G 30.

This is in accordance with the previous state of the art in Germany, as per DIN 12925-2. The corresponding protective aims must be achieved: (EN 14470-2 – Introduction: "The fire resistance capability should allow personnel to leave the workroom and allow fire-fighters to reach the location before the pressurized gas cylinders become unstable").

