

# French M1 fire protection standard compared to German B1 standard

p. 1 of 5

For the use of fabrics, textiles and papers in public buildings and at public events, proof of flame resistance must be provided, and not only in Germany.

But which specific requirements must be met? Which standards apply internationally?

**In Germany**, the legislator prescribes compliance with the fire safety standard in §19 of the Model Building Code (Musterbauordnung), the Accommodation Ordinance (Beherbergungsverordnung) and the state-specific regulations on places of assembly (Versammlungsstättenverordnungen).

**Decoration materials must be at least flame-retardant according to DIN 4102 or DIN EN 13501-1**, is the common requirement in Germany **in the technical guidelines for theatres, exhibitors, organisers, service companies, stand construction companies, service providers and the like.**

As a rule, these technical guidelines must be complied with by the contracting parties on their own responsibility as a fixed part of the contract.

Decorative materials also include wall coverings, room dividers, curtains, displays, textile sails, banners, flags and the like.

**Building material class B1 according to the German standard DIN 4102-1 is also referred to as "flame retardant".**

Products of this standard are basically also combustible, but they start burning a little later and are self-extinguishing, i.e. they do not continue to burn on their own.



**schwer entflammbar.**  
Ein Arbeitsbereich von König Konzept - Alfred König,  
Kommunikations- und Produktionsagentur.  
Truderinger Straße 302a, 81825 München.  
[www.schwer-entflammbar.com](http://www.schwer-entflammbar.com)  
[www.koenig-konzept.com](http://www.koenig-konzept.com)



The DIN 4102 standard classifies building materials and components in terms of their fire behaviour. Requirements and tests as well as fire protection terms are precisely defined for the building materials.

**This applies both to the fire behaviour of the material as a single building material and in combination with other building materials.**

The verification is mandatory for all materials. For the B1 standard, the tested material must still have an average residual length (more than 15 cm) after the "fire tunnel test" and the average smoke gas temperature (200 degrees Celsius) must not be exceeded. Only institutes with test approval test and classify the building materials according to the applicable standards.

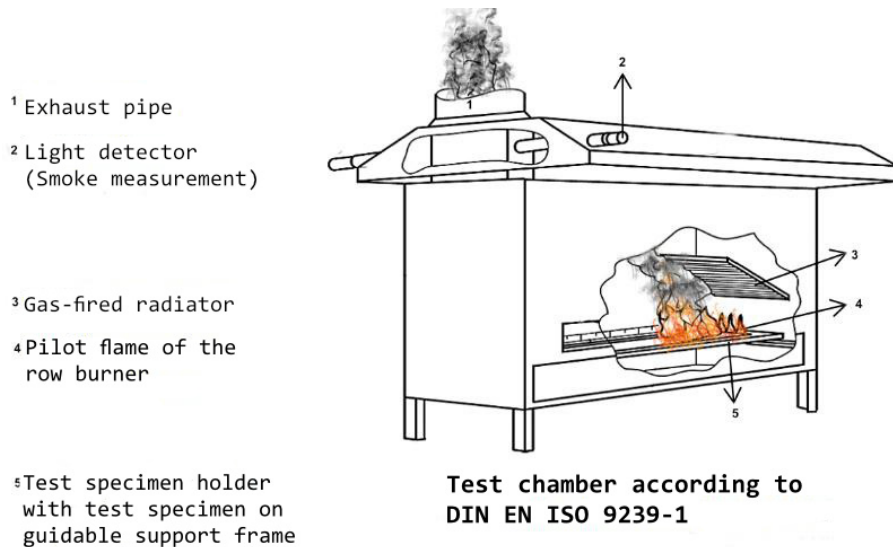
**At the moment, you can still choose between the German and the European standard.** However, the European standard is to replace the German standard in the future.

**The European standard has more parameters for classifying the fire behaviour** and smoke development of building materials. According to this standard, B1 building materials (flame-retardant building materials) must at least meet class C s3 d2. **The best level in this class is B-s1 d0.**



**schwer entflammbar.**  
Ein Arbeitsbereich von König Konzept - Alfred König,  
Kommunikations- und Produktionsagentur.  
Truderinger Straße 302a, 81825 München.  
[www.schwer-entflammbar.com](http://www.schwer-entflammbar.com)  
[www.koenig-konzept.com](http://www.koenig-konzept.com)





The material must not fall off in flames and must not develop smoke. The classification is based on the **Radiant Panel Test (radiation test)**. The materials are heated with a radiant heater and ignited several times with a small burner at the edges of the material. The **spread and duration of the flame as well as the dripping of material parts determine the test result.**

In **France, Belgium and Luxembourg**, the "**Brûleur Électrique**" test procedure is carried out **according to the NFP 92503 M1 standard.**

**The M1 certification is the better test result and has a higher status than the B1 certification in Germany. M1 has the meaning non-flammable, M2 means hardly flammable.**



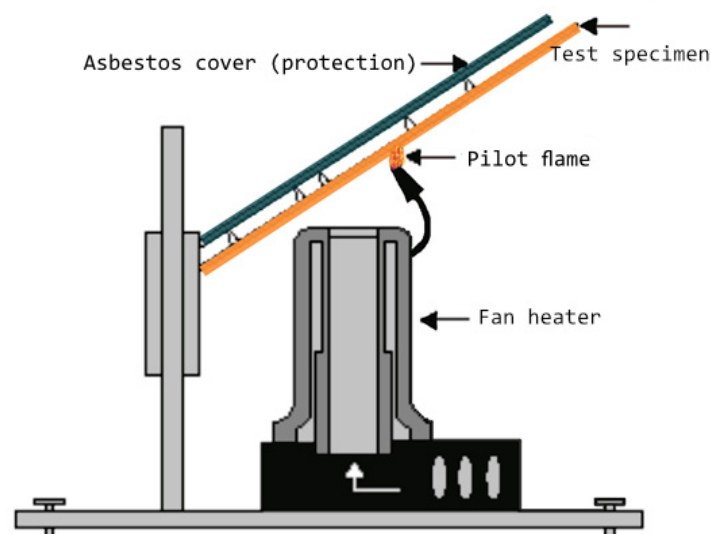
**schwer entflammbar.**  
Ein Arbeitsbereich von König Konzept - Alfred König,  
Kommunikations- und Produktionsagentur.  
Truderinger Straße 302a, 81825 München.  
[www.schwer-entflammbar.com](http://www.schwer-entflammbar.com)  
[www.koenig-konzept.com](http://www.koenig-konzept.com)



The test setup is similar to the European test. The building material is ignited with a gas flame at an acute angle of 30 degrees to the radiator. One difference in the procedure is that the flame is not directed at the edges but at the surface of the material.

**The building material must not burn for more than five seconds and nothing must fall off the fabric.** In addition, the initial size of the test substance must be maintained. **Only in this case does a substance receive the coveted M1 test result,** which has a very high reputation worldwide.

The sample is attached to a test fixture, at an angle of 30° above an electric heater from which heat flows. After 20 seconds of the test, a small butane gas pilot flame is held directly to the fabric surface, remains there for 5 seconds and is removed. This is repeated at 45 seconds and every 30 seconds thereafter until the test ends after 5 minutes. If a flame is still visible on the fabric after these 5 minutes, the test continues until the sample is completely extinguished.



**schwer entflammbar.**  
Ein Arbeitsbereich von König Konzept - Alfred König,  
Kommunikations- und Produktionsagentur.  
Truderinger Straße 302a, 81825 München.  
[www.schwer-entflammbar.com](http://www.schwer-entflammbar.com)  
[www.koenig-konzept.com](http://www.koenig-konzept.com)



The following aspects are recorded during the test:

- Flame duration
- Occurrence of dripping flame residue
- Length/width of the damaged sample

The requirements regarding classification are as follows:

Classification		M1	M2	M3	>M3
<b>Duration of the burn</b>	Time in sec.	≤5	>5	>5	>5
<b>Damage</b>	length mm	-	<350	<600	600
	width mm	-	-	<90	>90
<b>Drop</b>		none	none	none	

**Note:** In our information sheet *Test methods in comparison* you will find a short description of further test methods.



**schwer entflammbar.**  
 Ein Arbeitsbereich von König Konzept - Alfred König,  
 Kommunikations- und Produktionsagentur.  
 Truderinger Straße 302a, 81825 München.  
[www.schwer-entflammbar.com](http://www.schwer-entflammbar.com)  
[www.koenig-konzept.com](http://www.koenig-konzept.com)

