

Assignment of the reaction to fire classification as defined in the German standard DIN 4102-1 to the properties of building products as demanded by the German building codes when dealing with the reaction to fire behaviour.

Reaction to fire behaviour as demanded by the German building codes	Reaction to fire classification according to DIN 4102-1
non-combustible building products: nichtbrennbar ¹⁾	 A 1 / A 2
combustible building products: schwerentflammbar ¹⁾ normalentflammbar ¹⁾ leichtentflammbar ¹⁾	 B 1 B 2 B 3

¹⁾ These terms are not able to be translated in English language. They are defined by DIN 4102-1 by fulfilling the required criteria when performing the standardised reaction to fire tests according to DIN 4102-1.

Remarks

For products which shall be used in buildings the German building codes demand that the reaction to fire behaviour of these products fulfil certain requirements. These requirements are described by the use of the terms

- nichtbrennbar
- schwerentflammbar
- normalentflammbar
- leichtentflammbar

which are called as “Bauaufsichtliche Benennung“.

Important notice: In Germany it is not allowed to use a building product which is “leichtentflammbar” (class B3) when installed in its end use application. The minimum requirement which has to be fulfilled is “normalentflammbar” (class B2).

The German reaction to fire classes A1, A2, B1, B2 und B3 are generally determined by performing tests according to DIN 4102-1. It is not possible to make a direct link between the European reaction to fire classifications according to DIN EN 13501-1 and the classifications according to DIN 4102-1. It is just possible to link directly the above mentioned terms with the European classification system according to DIN EN 13501-1. This link is presented on the following pages (which is in correspondence to table 1 and table 2 of the annex 0.2.2. of the German regulation “Bauregelliste A” part 1, edition 2006/2).

Equivalence of the „Bauaufsichtliche Benennung“ to the European reaction to fire classification according to EN 13501-1 (without floor coverings)

„Bauaufsichtliche Benennungen“ according to German building codes	Requirements which may be demanded additionally		Equivalent European classes according to DIN EN 13501-1	
	No smoke	No burning droplets/no burning particles allowed	Building products, but not for linear pipe insulation products	Linear pipe insulation products
nichtbrennbar	x	x	A1	A1 _L
	x	x	A2 – s1, d0	A2 _L – s1, d0
schwerentflammbar	x	x	B –s1, d0 C –s1, d0	B _L –s1, d0 C _L –s1, d0
		x	A2 –s2, d0 A2 –s3, d0 B –s2, d0 B –s3, d0 C –s2, d0 C –s3, d0	A2 _L –s2, d0 A2 _L –s3, d0 B _L –s2, d0 B _L –s3, d0 C _L –s2, d0 C _L –s3, d0
	x		A2 –s1, d1 A2 –s1, d2 B –s1, d1 B –s1, d2 C –s1, d1 C –s1, d2	A2 _L –s1, d1 A2 _L –s1, d2 B _L –s1, d1 B _L –s1, d2 C _L –s1, d1 C _L –s1, d2
			A2 –s3, d2 B –s3, d2 C –s3, d2	A2 _L –s3, d2 B _L –s3, d2 C _L –s3, d2
		x	D –s1, d0 D –s2, d0 D –s3, d0 E	D _L –s1, d0 D _L –s2, d0 D _L –s3, d0 E _L
			D –s1, d1 D –s2, d1 D –s3, d1 D –s1, d2 D –s2, d2 D –s3, d2 E –d2	D _L –s1, d1 D _L –s2, d1 D _L –s3, d1 D _L –s1, d2 D _L –s2, d2 D _L –s3, d2 E _L –d2
leichtentflammbar			F	F _L

Equivalence of the „Bauaufsichtliche Benennung“ to the European reaction to fire classification according to DIN EN 13501-1 valid for floor coverings

„Bauaufsichtliche Benennung“	European classes according to DIN EN 13501-1
nichtbrennbar	A _{1fl}
	A _{2fl} – s1
schwerentflammbar	B _{fl} – s1 C _{fl} – s1
normalentflammbar	A _{2fl} – s2 B _{fl} – s2 C _{fl} – s2 D _{fl} – s1 D _{fl} – s2 E _{fl}
leichtentflammbar	F _{fl}

Remarks:

As a matter of principle the usability of building products which are not marked with a CE-sign **and** which are classified according to DIN EN 13501-1 concerning the reaction to fire behaviour has to be proven by the approval „Allgemeine bauaufsichtliche Zulassung“. This approval is prepared by the Deutsche Institut für Bautechnik (DIBt). As base for this approval the DIBt is solely using test results from test laboratories which are approved by DIBt.

MPA NRW is approved by DIBt for these tests.

For products of class E or E_{fl} the usability can be proven by the approval „Allgemeines bauaufsichtliche Prüfzeugnis“. This approval can be prepared by MPA NRW.

MPA NRW is notified by the European commission (Identification no. 0432).

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