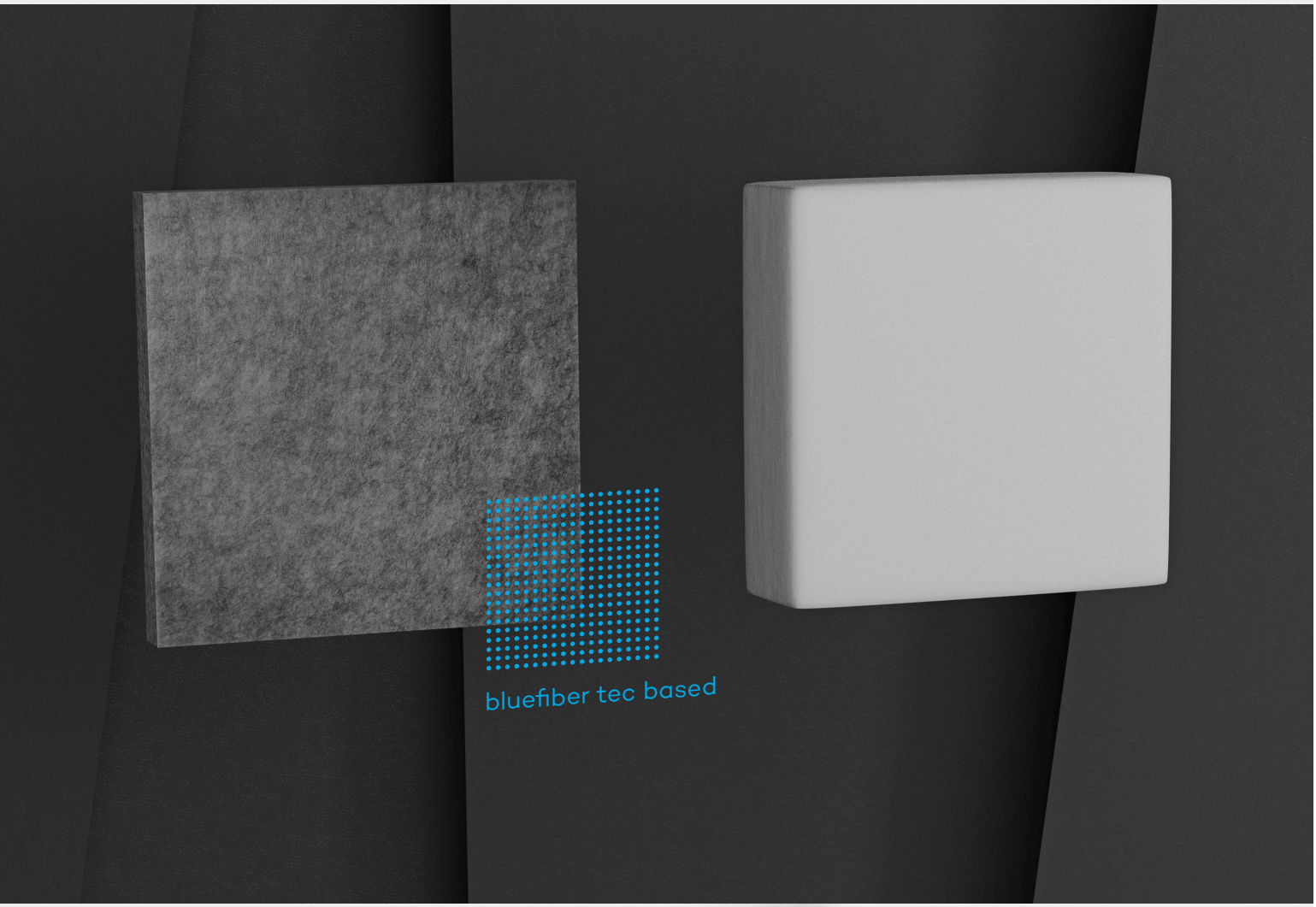
bluefiber

smart acoustic technology



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FAQ on the Fire Performance of Construction Products in Europe

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What does „Fire Performance“ mean in relation to construction products?

Construction products classified as flame-retardant do not continue to burn on their own once the source of ignition has been removed. In terms of fire safety, flame-retardant products reduce the fire load and allow for longer evacuation times in public buildings.

What’s the difference between normally flammable, flame-retardant, and non-combustible building products?

Category	Fire behaviour	Typical classifications	Contribution to fire growth
non-combustible	non-ignitable	A1 / A2	none
flame-retardant	Difficult to ignite, limited fire load	B1 (DIN 4102) B-C (EN 13501)	low
normally combustible	easily combustible	B2 (DIN 4102) D-E (EN 13501)	significant

Which standards apply?

In Germany, Construction Material Class B1 according to DIN 4102-1 applies. This is a German standard evaluating the fire behaviour only (flammability, flame spread, heat release/contribution to the fire).
In Europe, the procedures set out in DIN EN 13501-1 are the authoritative standard and are more nuanced, as they contain uniform criteria for classifying the fire performance of construction products .In addition to fire behaviour (in accordance with DIN 4102-1), it also takes into account smoke emission and dripping to enable a more comprehensive risk assessment.
Both systems serve the same purpose, but use different testing methods and criteria.

Criterion	DIN 4102-1	DIN EN 13501-1
Primary test method	(Fire) Shaft test	Single Burning Item (SBI) test + Single Flame Source Test
Assessment	Fire behaviour only	Fire behaviour + smoke production + flaming droplets
Representation of real fire conditions	low	high
Classification	A/B-System (A1–B3)	A–F + s/d-Kriterien

Other National Standards

- UK: BS 476 = the old British standard; since 2024/2025, the United Kingdom has been in the process of transitioning to the Euroclass system in accordance with EN 13501-1.
- France has its own historical classification system for fire performance, known as the M-classification, which is governed by the NF P92-5xx series of standards. For construction products within the meaning of the EU Construction Products Regulation, the European classification EN 13501-1 applies in France.

What do the classification elements mean?

Contribution to fire	
A	non-combustible
B	very limited contribution to fire
C	limited contribution to fire
D	moderate contribution to fire
E	acceptable performance
F	no performance

Smoke production	
s1	limited smoke production
s2	moderate smoke production
s3	high smoke production or not determined

Flaming droplets and particles	
d0	No flaming droplets or particles within 600 seconds
d1	No flaming droplets or particles persisting for more than 10 seconds within 600 seconds
d2	Significant flaming droplets and particles

Example: **B-s2, d0**

B	very limited contribution to fire
s2	moderate smoke production
d0	no flaming droplets or particles

What does a classification report contain?

A classification report contains all the information required under the relevant standards to unambiguously assign a construction product to a fire class and ensure it is used correctly on the market. It is legally binding, compliant with standards and formal in nature.

Why are fire safety certificates required?

Fire safety certificates for construction products are required because they assure safety, compliance with regulations, and suitability for use in the construction industry. The fire performance classification is thus officially certified in accordance with the relevant standards.

Which standard is used to classify the flame-retardant properties of bluefiber products?

bluefiber products are tested and classified in accordance with the European standard DIN EN 13501-1.

How is the flame-retardancy of bluefiber products tested?

Flame-retardancy is always taken into account during the development of bluefiber products. Each individual colour is tested, as colours differ in their composition. Furthermore, depending on customer requirements or practical applications, the specific installation scenarios may be tested in individual cases. Grammages and thicknesses are also tested individually; however, under certain conditions, the relevant testing institute may carry out an abbreviated test if, for example, the simplest and most critical test conditions yield the same fire test result. This means that a 1000 gsm material and a 4000 gsm material achieve the same result in the preliminary test, and the testing institute therefore classifies the 2000 gsm material in the same category.

Why do bluefiber products have different fire classifications?

There are various factors to consider, as these may affect the fire rating:

- Colour of the product
  Colour pigments can influence fire behaviour. As a rule, darker colours contain more colour pigments, which means that lighter colours generally achieve a better classification than darker colours.

- Variants (grammages, densities, thicknesses)
  Greater thicknesses generally have a greater mass to burn and therefore have a higher heat input.

- Installation situations and joint details
  When fibers are processed into bluefiber products, a porous material is created that, with varying thickness and/ or density, traps varying amounts of oxygen. This can result in different fire resistance classes within the range of products.

  Furthermore, any installation scenario can be tested with or without butt joints, as these can also affect the fire resistance rating.
  At Sandler, we certify installations with a standard spacing of > 80 mm, whether free-standing or hanging, with a butt joint.

  And, depending on customer's requirements or practical application, specific installation scenarios can be tested on a case-by-case basis.

What factors influence the fire performance of bluefiber products?

Other than material properties, installation conditions, and varying densities and thicknesses, the use of recycled or flame-retardant fibers can influence fire behaviour.

Where do I find the fire safety certificates for bluefiber products?

In addition to the nature of the material, the installation conditions and the varying densities and thicknesses of the material, the use of recycled fibres or flame-retardant fibres can also influence fire behaviour.

Are bluefiber certificates traceable?

Yes, they are issued by an accredited testing laboratory, include a report number and the test date, and match the product name and description exactly.

Which data is relevant?

- The standard: The test method used (e.g. EN 13501-1).
  bluefiber products are tested and classified in accordance with the European standard DIN EN 13501-1.
- The classification: A summary of performance (e.g. B - s1, d0).
  bluefiber fire safety certificates are transparent, and the respective classifications take into account individual factors such as colour, grammage, bonding/density, thickness and installation conditions.

What advantages do bluefiber products offer in terms of flame retardancy?

You can rely on our transparency, as the data in the bluefiber fire certificates is provided in accordance with the relevant standards and is specific to the material and installation conditions. In accordance with DIN EN 13501-1, bluefiber materials have been tested and verified in all colors, thicknesses, densities, and relevant installation scenarios.

Can I use this product anywhere?

Our documentation explains the typical applications and installation scenarios. No legal assessment or project-specific approval is given.

Why is bluefiber clearly the best choice?

You buy directly from the German manufacturer and have a direct and knowledgeable point of contact. Supply chain security, straightforward order processing, clear product-specific certifications and single-variety purity are crucial factors.
We place the utmost importance on the use of tested, high-quality raw materials, and our in-house quality assurance team checks both incoming and outgoing goods to ensure they meet the highest standards.