FIRE SAFETY APPROACH IN FACADES

Nowadays, more attention is being paid to the fire safety of buildings, especially facades. What factors play a role in achieving a truly fire-safe facade?

In Europe, various requirements are set regarding fire safety. These refer to EN standards and test methods. In a laboratory, different tests are conducted to determine whether the requirements for fire resistance, smoke permeability, and fire behavior are met. Based on the results, a classification can be given for a product or construction component. This classification indicates the performance achieved. But does this also translate well into practice? For facades, different fire safety requirements apply, such as fire resistance to fire spread and fire breakthrough. Direct requirements are also set for the fire rating of a facade, depending on factors such as the height of the facade section. Generally, facades must meet fire class D. Facade sections below 2.5 meters and above 13 meters are an exception; for these, fire class B applies. But does a facade meet all relevant requirements if it complies with this fire class?

Fire class, facade composition

The applicable standards impose additional conditions on the risk of fire spread for facades. In principle, the applied facade material and construction should not significantly contribute to the fire propagation over the facade. If the facade meets fire class B for at least 95 percent, this condition is satisfied. Additionally, measures must be taken to prevent fire spread through a cavity. This may result in modifications to the facade and detailing.

The Single Burning Item test (SBI test) must determine whether a facade construction meets fire class B. The fire class indicates the degree of combustibility of the materials in the facade. The test is conducted according to test standard EN 13823, which measures how much energy is released and how quickly the fire develops.

Based on threshold values set for each fire class, the facade is classified for a specific fire class. This classification shows that the facade construction meets a certain fire class, in this case, fire class B.

Whether fire class B is met depends on various factors. Firstly, the combustibility of the materials in the facade is relevant, as well as the amount of material used. It is also important how well the combustible materials are shielded. Consider the adhesive connection behind (almost) non-combustible cladding.

Thus, fire class B can still be achieved by using combustible framework or insulation material that does not itself meet fire class B but is adequately protected by the exterior finish.