

## FIRE SPREAD THROUGH CLADDING

**It is a dilemma for every facade builder, supervisor, and constructor: the decision to mount facade panels using an adhesive bond. Confusing stories circulate about fire safety, causing many companies to find themselves in a difficult position, which certainly does not benefit the sustainability of facade constructions.**

A frequently recurring question is to what extent the use of TWEHA's 'flammable' adhesive products (B,s1-d0) is justified. There is still much unknown about the behavior of a fire in ventilated facade systems.

This has prompted TWEHA's partners to commission targeted fire studies in recent years to clarify this issue. Naturally, we want to share the insights gained and use them in your assessment process.



From every fire and fire test, one can conclude that the cause, development, and fire-resistant properties of the facade panel material are crucial for potential fire development. The role of insulation materials can also play an important part in a cavity fire.

Tests show that the adhesive bond has no significant influence on the fire development of the entire facade construction. Only when the facade panels start to burn will the adhesive bond eventually participate in the combustion. Flammable insulation material will also contribute to fire development in the air cavity during a fire. Therefore, to prevent

fire spread into the air cavity, compartmentalization with cavity barriers in the air cavity and the use of fire-resistant or non-combustible insulation material is required.

Depending on the type of facade panel material and insulation material, the first bonded facade elements have now been tested, and it has been established that they meet the requirements with the BR135 classification according to BS 8414 and the Swedish SP Fire 105. Multiple tests following the 'Classification Of Reaction To Fire According to EN 13501-1:2018' show, in conjunction with the applied facade panel material and/or insulation material, classifications ranging from A2,s1-d0 to B,s1-d0.

The influence of the small number of adhesive products in the facade construction appears to have no effect on the fire behavior of the entire facade construction. The use of the right combination of products and materials in the bonded facade construction, along with the placement of cavity barriers, will significantly reduce the risk of fatal fire development.