

Technical Bulletin

Fire Classification of Bonded Insulation Materials

The ban on combustible materials in the external walls of relevant buildings over 18m* which came into force in 2018 in the wake of the Grenfell disaster, reinforced the importance of non-combustibility and regulatory compliance in all areas of building construction. In England, Approved Document B provides new guidance on residential buildings over 11m.

Construction elements attached to the façade, such as upstands, balconies and terraces, fall within the scope of this ban. To develop specific solutions for these applications, manufacturers have adopted techniques including bonding insulation materials to create a composite product. This is a legitimate and effective process, but raises potential non-combustibility compliance gaps which must be recognised and addressed.

Understanding Euroclass

In respect of the combustibles ban, the simplest way to determine the combustibility of a building product is by checking its Euroclass reaction-to-fire rating.

A product's Euroclass rating factors a comprehensive set of characteristics, including ignitability, flame spread, heat release, smoke production and propensity for producing flaming droplets and particles. Only products achieving classifications 'A1' and 'A2-s1, d0' can be used where the combustible ban applies.

Euroclass	Combustibility
A1 A2-s1, d0	Non-combustible
B C D E F	Combustible

Euroclass classifications for bonded insulation materials

Upstand boards for parapet walls are one of the products that fall within the ban which are often formed of two bonded insulation materials – a facing board and an insulation board.

It is critical to understand that when two materials are bonded, even if both are rated Euroclass A1 independently, the resulting composite product will not necessarily achieve Euroclass A1 status – or even A2-s1, d0.

The organic content in the adhesive used to bond materials adversely affects the finished product's reaction-to-fire rating, potentially resulting in a combustible Euroclass rating of B or lower.

Achieving a non-combustible rating for these products requires the adhesive to be applied in a factory controlled and precisely calibrated manner.

* Separate rules apply for buildings in Scotland over 11m.

Identifying compliant, non-combustible products

For composite products, independent test evidence is required for the finished product to demonstrate compliance with Approved Document B (ADB) and the combustible ban (achieving Euroclass A2-s1, d0 or better).

In some cases a bonded composite product may meet these requirements – but responsible architects, specifiers and contractors should always request evidence of testing and assessment to EN13501-1 from the manufacturer to prove this.

ROCKWOOL HARDROCK® UB34

ROCKWOOL HARDROCK UB34 is a non-combustible insulation solution designed specifically for parapet walls and upstands on flat roofs. It comprises of a dense 50mm slab of ROCKWOOL stone wool insulation bonded to a rigid 6mm fibre cement board, and is suitable for use on buildings that are affected by the ban on combustible materials.

ROCKWOOL has ensured that HARDROCK UB34 is tested as a finished composite product, and it has proven to achieve Euroclass A2-s1, d0.

More information about ROCKWOOL HARDROCK UB34 is accessible through the ROCKWOOL website, and its reaction-to-fire certification is available on request: www.rockwool.com/uk/ub34/

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