

A SPECIFICATION GUIDE TO Flame Retardant Wood Panels

Part 4: Specification of wood-based panel products for performance in fire

Where flame retardant wood-based panel products are used in a building, it is vital that they provide long-term, predictable fire protection backed by independent certification.

The golden thread of information

In England, the focus on the specification and verification of the performance of construction materials, particularly their reaction to fire, is set to increase significantly with the introduction of the new Building Safety Bill.

The draft Bill was published in July 2020, in the wake of Dame Judith Hackitt's review of Building Regulations and fire safety following the Grenfell Tower Fire. One of the most significant elements included in the Bill is the creation of a golden thread of information for all complex and high-risk building projects so that the original design intent is preserved and recorded throughout the building's life.

The golden thread of information will detail how a building was designed, built and is being maintained in use. It is a live document, contained within the Building Information Modelling (BIM) digital model, to provide a digital trail of decisions, along with the people accountable for making them, from design to demolition, including how the building has been designed for fire safety.

The Bill also proposes a new duty holder system for every complex and high-risk building project. This will ensure that the person, or entity, that creates a building safety risk is responsible for managing that risk.

The duty holder system is enforced by inserting a virtual gateway between each phase of a building's life, with different duty holders responsible for each of the gateways. The golden thread of information will run through the different phases.

The duty holder for the design phase will be the principal designer, which will probably be the architect, while for the construction phase it will be the main contractor. At gateway three, the client, principal designer and principal contractor will be required to produce and co-sign a final declaration confirming that to the best of their knowledge the building complies with current building regulations before handover.

Key information related to fire safety and structural safety submitted during the three gateways will form part of the golden thread of data handed over to the building owner who will then be responsible for keeping the information up to date and for making it accessible to relevant people throughout the lifecycle of the building.

The consultation on the draft Building Safety Bill has finished. However, at the time of writing this, the final document has yet to be published in England. Also at the time of writing, it is understood that the planned changes will now also apply to Wales, although the Welsh government will have powers to vary the scope and application of the rules. There are different starting points for building fire safety in Scotland, Northern Ireland, and the Republic of Ireland, and notably far less buildings over 18m tall with aluminum composite material (ACM) cladding. Therefore, it is likely that the legislative and regulatory steps following on from Grenfell will differ.

The fundamentals of wood-based panel specification for performance in fire

SMARTPLY MAX FR OSB and **PREMIER FR MDF** panels are CE marked before leaving the factory which guarantees the panel's reaction to fire and structural performance as declared in the accompanying Declaration of Performance (DOP) for these products where the performance is independently verified and certified.

SMARTPLY MAX FR B is the first Euroclass B flame retardant OSB3 panel to be manufactured in the UK and Ireland to feature wood strands treated with flame retardant solution before pressing to ensure the panel has outstanding and reliable reaction to fire properties, not just on the surface.

In addition, **MEDITE PREMIER FR MDF** is a premium MDF panel with flame retardant added during manufacture. **MEDITE PREMIER FR** is available in Euroclass B panels.

To assist in the correct specification of these products for performance in fire it is recommended to follow the five step guide below:

STEP 1: Determine what **Reaction to Fire performance** is required by Building Regulations, for example Euroclass B. Note: the thresholds to achieve Euroclass B are higher than for Euroclass C and, therefore, if a material achieves a Euroclass B classification then it also conforms to Euroclass C provided there is no change in the field of application as detailed in the Fire Classification report.

STEP 2: Determine the **Service Class**. Is the wood-based panel to be used in:

- an internal dry (Service Class 1 or INT1) application;
- internal humid (Service Class 2 or INT2) application;
- or external (Service Class 3 or EXT) application.

STEP 3: Determine the **End use** application (e.g. wall sheathing, flooring, etc).

STEP 4: Verify the product's performance credentials by checking its DOP and ensure that the manufacturer's performance claims are independently verified. Under the Construction Products Regulation, it is a legal requirement of the manufacturer to make a DOP available before placing the product on the market. Therefore, if no DOP, Classification Report and CE certification are made available, you should not specify or install the product. You should seek technical advice from a reputable product manufacturer and / or independent industry advisory associations such as the Wood Protection Association, TRADA, BRE, etc.

Check that the description of the material given in the Classification Report quoted by the manufacturer can be taken to apply to the material to be used in the project. The Classification Report should describe how the material was tested and this can be found in the 'Field of Application' section. Different test setups (eg with or without airgap), timber species and cross-sectional sizes do affect fire performance ratings and require an Extended Application Report.

Finally, for additional peace of mind, where the wood-based panel product's reaction to fire performance has been enhanced by the incorporation of flame retardant chemicals as part of the manufacturing process it is advisable to check to see if the panel has been approved under the Wood Protection Association (WPA) benchmark scheme. **SMARTPLY MAX FR OSB**, for example, has WPA approval for both the factory processes used in its manufacture and the use of an approved formulation of flame retardant under the scheme.

STEP 5: Make sure you **get what you specified**. Inferior product substitution is unfortunately commonplace, so it is critical to check the product and its audit trail before it is installed on site.

For more information on **MEDITE SMARTPLY** visit: www.mdfosb.com
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