

# A SPECIFICATION GUIDE TO Flame Retardant Wood Panels

## Part 5: The features and benefits of **SMARTPLY MAX FR B OSB** and **PREMIER FR MDF**

### **SMARTPLY MAX FR B OSB**

**SMARTPLY** Oriented Strand Board (OSB) is the versatile, cost effective and environmentally friendly alternative to plywood. It is manufactured by compressing precisely engineered strands of wood with moisture resistant and formaldehyde free resins at high temperature to create an incredibly strong and versatile panel.

**SMARTPLY MAX FR** Euroclass B-s2,d0 OSB/3 combines structural integrity with the highest fire rating possible for a wood-based panel. It is manufactured and CE Marked ex-works in accordance with the harmonised European standard EN 13986, ensuring it is fully compliant with the Construction Products Regulation (CPR) and EU law.

#### **Features and benefits**

- Outstanding Reaction to Fire performance. The panels innovative in-line manufacture enables the water-based flame retardant chemical to be added to the wood strands at the same time as the resin during the manufacturing process, thereby locking the fire performance into the panel as a homogenous and permanent feature.
- Product range: Available as Euroclass B-s2,d0 in 11, 15 and 18mm thick metric sized panels which are suitable for wall sheathing, flooring and ceiling applications, as well as multiple other end uses.
- Guaranteed quality. Building-in the flame retardant during manufacture is the only way to guarantee the quality and performance of the product in end-use applications, because it does not rely on additional processing by other parties (post-treatments can destroy the structural properties and negate the original CE mark attached to the product).
- Consistent performance. Unlike coatings, laminates, or other surface treatments, **SMARTPLY MAX FR B** is homogenous throughout its thickness, thereby providing superb robustness, flatness, ease of use and consistency in performance for the entire lifetime of a building.
- Suitable and certified for permanent structural applications. Unlike pressure treated wood panels that have not been re-tested and CE marked after treatment, **SMARTPLY MAX FR B** is suitable and certified for permanent structural applications in buildings.
- Independently tested & certified. All product testing and classification reports, plus 'certification of constancy of performance' CE certificate are issued by an independent Notified Body under Attestation of Verification of Constancy of Performance (AVCP) Level 1. The documents are available on request to anyone in specifying or purchasing **SMARTPLY MAX FR B** panels.
- Predictable fire performance. Wood burns - fact! However, the rate at which wood burns in a fire is very predictable and therefore it is a very easy material to design safely into building structures. When wood burns its surface chars in a natural process called pyrolysis (decomposition due to high temperatures), which helps to protect wood beneath the char layer. Design charring rates for wood-based panels are calculated in accordance with EN 1995-1-2 Eurocode 5: Design of timber structures - Part 1-2: General - Structural fire design.
- Flame retardant technology. The flame retardant chemical integral in **SMARTPLY MAX FR B** works by a chemical reaction that's triggered when the flame retardant panel comes into contact with a flame or high temperatures. The chemical works by promoting early char formation, effectively producing a progressively thicker insulated char layer which slows down the

charring rate with time, which in turn helps to prevent the product from igniting and contributing to the fire's growth. It is a well-known fact that preventing ignition in the early stages of a fire's development is the safest, cheapest and most effective form of fire prevention. Independently tested charring rates are available on request for calculation by qualified fire engineers only.

- Slow burn-through rate. By promoting charring of the surface of the panel, the flame retardant protects the wood strands in the OSB panel. Because the flame retardant treatment is homogeneous throughout the panel, protection is continuous which slows down the rate at which the panel will burn-through. FR wood-based panels are not certified as providing "30 minutes" or "60 minutes". This terminology refers to Fire Resistance of a building element or component (refer to part 3 of this Fire Guide for further information).
- No additional edge treatments required. Since the wood strands are treated during manufacture, no additional flame retardant edge treatments are required when the panel is cut. In addition, light sanding of the surface of the panel will not affect its reaction to fire performance because the flame retardant treatment is consistent through the panel thickness. However, excessive sanding of wood panels is not recommended as it may affect other essential characteristics in use.
- Safe and non-toxic. Zeroignition® flame retardant technology used in the manufacture of **SMARTPLY MAX FR B** is a completely safe and non-toxic. Zeroignition® is borate-free and does not contain any substances of very high concern (SVHCs) and whose use is restricted under the REACH regulation for controlling chemicals in Europe.
- Suitable for both dry and humid interior applications. **SMARTPLY MAX FR B** is suitable for structural use in both Service Class 1 (dry interior) and Service Class 2 (humid interior) applications
- Aesthetically pleasing. Unlike liquid pressure treatments, the **SMARTPLY MAX FR B** panels are dry, flat and stable with no nasty residues or sticker marks on the surface and unlike plywood veneers, the surface of OSB does not contain knots or repair plugs, which can loosen and fall out during treatment
- Environmental Product Declaration. An EPD is available

for download on [www.mdfosb.com](http://www.mdfosb.com). The product is considered Carbon Negative to our factory gate (A1-A3). Biogenic Carbon is reported separately to facilitate independent verification and prevent double counting of biogenic carbon in whole life carbon LCA studies for building projects.

- FSC® certified. **SMARTPLY MAX FR B** is made using sustainable, fast-growing timber from forest-thinnings of predominantly new-growth spruce and pine, including the tree tops which are unsuitable for conversion into sawn timber products. As with all MEDITE SMARTPLY products, **SMARTPLY MAX FR B** is FSC® certified.

### Applications

**SMARTPLY MAX FR B** is an innovative wood-based panel independently certified for the most demanding structural applications in permanent constructions where enhanced reaction to fire performance is required such as for wall sheathing, flooring and roofing. It is also commonly used in non-structural applications and interior fit-outs.

Applications include:

- Timber frame construction
- Light gauge steel construction and offsite modular construction systems
- Furniture, shop fitting and general joinery
- Exhibition stands, film sets and stage construction
- Fire protection during construction through compliance with the performance requirements of the Structural Timber Association's Design Guide to Separating Distances During Construction

## **MEDITE PREMIER FR MDF**

The excellent machining qualities of MDF make it the perfect material for a huge variety of applications.

**MEDITE PREMIER FR** (Flame Retardant) MDF panels have led the market since they were invented in the mid 1980's and are highly regarded for their consistency in quality and performance in fire rated applications where a Euroclass B flame retardant panel is required under Building Regulations or other relevant technical requirement.

### **Features and benefits**

- Flame retardant MDF
- Euroclass B
- Treated throughout thickness enables deep routing and edging
- Easily identified – pink colour indicator in the core identifies the product as **FR MDF** which prevents misuse.
- Smooth surface
- Consistent quality and thickness
- Excellent machining qualities
- FSC® certified.
- Low Emissions. Complies with the stringent European E1 standard on Formaldehyde and also complies with the lower formaldehyde levels required by CARB phase 2.

### **Applications**

**MEDITE PREMIER FR MDF** Euroclass B and C panel products are suitable for use as:

- Wall linings
- Partitions
- Display panels
- Ceilings
- Suitable for use in internal dry conditions (Service Class 1 as defined in Eurocode 5 and Use Class 1 as defined in EN 335).

Note: **MEDITE PREMIER FR MDF** products are not suitable for external or structural applications, or where exposure to water or high relative humidity may be encountered.

For more information on **MEDITE SMARTPLY**  
visit: **[www.mdfosb.com](http://www.mdfosb.com)**  
Call: **+44 (0) 1322 424900**

