

# SMARTPLY® MAX FR/FR BUILD

SMARTPLY MAX FR/FR BUILD is a flame retardant panel developed in response to the STA's (Structural Timber Association) "Design guide to separating distances during construction" for timber frame buildings above 600m<sup>2</sup> total floor area.

Zeroignition® Solution, a water based, eco-friendly, flame retardant is added during panel processing ensuring fire performance whilst maintaining structural integrity.

Manufactured in accordance to EN 300, it is the perfect choice for roofing, flooring and wall sheathing where strength, moisture resistance and flame retardance are paramount.

# SMARTPLY<sup>®</sup> MAX FR/FR BUILD

## FEATURES AND BENEFITS

- Flame retardant added within the panel – ensuring dependable performance.
- No structural degradation in panel - unlike many post treated alternatives. Does not crack or shatter.
- 100% wood-based product - easy to cut and fix using normal OSB3 methods.
- More lightweight than mineral based alternatives.
- Zero added formaldehyde – contributing to healthier environments.
- CE Compliant – marked at the source of manufacture.
- Suitable for EC5 design.
- Category 1 racking.
- Made from FSC<sup>®</sup> timber from our own forests.
- Zeroignition<sup>®</sup> Solution, a water based flame retardant - completely safe with no borons or other carcinogens.

## QUALITY AND ENVIRONMENTAL CERTIFICATION

For Quality and Environmental Certification, see SMARTPLY MAX Datasheet. All SMARTPLY MAX FR/FR BUILD products are manufactured using formaldehyde free resin.

SMARTPLY MAX FR/FR BUILD fire performance is achieved using Zeroignition<sup>®</sup> Solution, a water-based, environmentally friendly and completely non-toxic flame retardant.

SMARTPLY MAX FR/FR BUILD is suitable for use in domestic or industrial, structural or non-structural applications. Depending on the requirement SMARTPLY MAX FR/FR BUILD is suitable for use either entirely or supplementarily in Category A, B or C builds as outlined in Structural Timber Association's (STA) "Design guide to separation distances during construction". Categorisation level depends on wall and floor/ceiling construction detail.

## CATEGORISATION DETAIL

STA fire performance categorisations are based on both a points system and a combined system evaluation.

## COMBINED SYSTEM

It is possible also to achieve categorisation level which is unique to a combined system build.

SMARTPLY MAX Combination, as listed in 'Product Paper 4' is such a combined system. The elements of an F3 floor and a W6 wall by the points system achieve only 5 points (B2) categorisation. Given the advanced performance level of SMARTPLY MAX FR/FR BUILD when tested as a complete system SMARTPLY MAX Floor Wall Combination achieved a B3 categorisation, which is equivalent to 6 points.

## POINTS SYSTEM

STA points system allocates a minimum number of points a build must achieve in order to reach a specific classification. To achieve a specific categorisation for an assembly simply add the points indicated for Flooring and Wall assemblies.

A matrix for all combinations is available from the download section at [www.structuraltimber.co.uk](http://www.structuraltimber.co.uk) (Info Centre/Technical Library/Design Documents/Product Paper 4).

Category	Minimum total points for wall + floor assembly	Minimum points for the floor assembly alone1
A	<3	
B1	3	1
B2	5	1
B3	6	1
C1/2	7	2

Looking at the Points system, SMARTPLY MAX panels can be used in the following constructions, with the panel type and points gained outlined below;

### FLOOR ASSEMBLIES

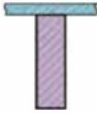
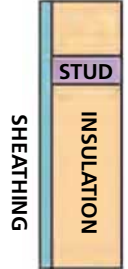
STA Reference	SMARTPLY Deck Product to Use	Points
F1	SMARTPLY MAX	0
F2	SMARTPLY MAX FR BUILD	1
F3	SMARTPLY MAX FR BUILD	2
F4	SMARTPLY MAX	2
F6	SMARTPLY MAX	2
F7	SMARTPLY MAX	2

**Note:** Panel thickness depends on floor design but 15mm is min panel thickness.

### WALL ASSEMBLIES

STA Reference	SMARTPLY Sheathing Product to Use	Points
W1	SMARTPLY MAX	0
W5	SMARTPLY MAX FR	2
W6	SMARTPLY MAX FR	3
W7	SMARTPLY MAX FR	4
W8	SMARTPLY MAX FR	5

**Note:** Panel thickness depends on design specification but 11mm is min panel thickness W5,W6,W7 & W8.

SMARTPLY FLOOR WALL SYSTEM		
Construction	Detail	Category of construction
<p><b>FLOOR</b> F3</p>  <p><b>WALLS</b> W6</p> 	<p><b>FLOOR</b>  <b>Deck</b> - SMARTPLY MAX FR BUILD in 15mm  <b>Joist</b> - F3.1 FR MAX BUILD solid rectangular  <b>Note</b> - all F3 joist solutions are acceptable</p> <p><b>WALLS</b>  <b>Sheathing</b> - SMARTPLY FR min 11mm  <b>Stud</b> - FR MAX BUILD treated  <b>Insulation</b> - Type 3 insulation - Stone wool full fill</p>	B3

### SPECIFICATION AND DESIGN

As design and performance values can vary between manufacturers, it is important that the SMARTPLY MAX FR/FR BUILD panels specified by the designer are those used on site. All SMARTPLY MAX FR/FR BUILD panels are clearly marked with the following:

- a** Major axis (length of panel, direction of laying arrows).
- b** Production identification number.
- c** Production Certification mark (e.g. IAB).
- d** CE Marking.
  - (i) Manufacturer's name/Logo (SMARTPLY)
  - (ii) Notified body identification number
  - (iii) Harmonised Standard (EN13986).
  - (iv) Panel type (e.g. OSB3)
  - (v) Thickness (e.g. 15mm)
  - (vi) Formaldehyde class (e.g. E1)
  - (vii) DOP Reference No.
- e** Additional marking for ease of reference (e.g. 2+ Structural).
- f** FSC certification.
- g** FR classification (e.g. FR MAX BUILD).
- h** "Powered by ZI" for assurance of retardant inclusion.

### SUITABILITY

EN 300 classifies OSB panels by their properties which relate to their intended use. SMARTPLY MAX FR/FR BUILD is classified as a load-bearing panel for use in humid conditions.

Structures comprising SMARTPLY MAX FR/FR BUILD BUILD should be assigned to service class 1 or 2 as defined in EN 1995-1-1 (Eurocode 5). According to this standard, SMARTPLY MAX FR/FR BUILD is suitable for use in both these service classes. According to EN 300, SMARTPLY MAX FR/FR BUILD is suitable for use in Use classes 1 and 2 of EN 335.

For Mechanical and physical properties of SMARTPLY MAX FR/FR BUILD and Structural design of SMARTPLY MAX FR/FR BUILD please refer to SMARTPLY MAX datasheet Table 1 and Table 2 respectively.

Zero added formaldehyde: SMARTPLY MAX FR/FR BUILD is manufactured using advanced resin technology that results in a higher performance, zero added formaldehyde panel that scores highly in 'The Green Guide to Specification'. See SMARTPLY MAX FR/FR BUILD Datasheet for more detail.

This specialist resin formulation provides a supreme bond with the wood strands as it has a reaction with the wood itself, when put under intense heat, creating a chemical weld. This is a different and superior type of bond to the mechanical welds that formaldehyde-based products exhibit. Depth of penetration is well beyond the minimum 0.3mm needed for a wood resin to provide adequate adhesive strength. This extra penetration also greatly improves the woods resistance to thickness swell.

# SMARTPLY® MAX FR/FR BUILD

## FIRE PERFORMANCE

SMARTPLY FR MAX/FR MAX BUILD is manufactured using Zeroignition® Solution, a water based, eco-friendly, non toxic, flame retardant solution that has been uniquely developed to penetrate deeply into the wood strands. The Zi flame retardant is added during the panel manufacturing process. Any post processing, edge cutting, nailing etc will not affect the fire performance of SMARTPLY MAX FR/FR BUILD. Addition of the Zi flame retardant solution during the manufacturing process ensures that panel quality is maintained to EN300 unlike post treatment FR technologies which can tend to have a destructive effect on the mechanical or physical properties of a panel. The Wood Protection Association Benchmark MAX FR BUILD symbol confirms that the process of applying a retardant has been quality assessed and certified by the WPA in line with the STA FR MAX BUILD requirements.

## SIZE AND THICKNESS

11 X 2397 X 1197 MAX FR SE  
15 X 2397 X 1197 MAX FR BUILD SE  
15 X 2440 X 1220 MAX FR BUILD SE  
15 X 2397 X 1220 MAX FR BUILD T&G2  
18 X 2397 X 1197 MAX FR BUILD SE  
18 X 2440 X 1220 MAX FR BUILD SE  
18 X 2397 X 1220 MAX FR BUILD T&G2

Other thicknesses and panels sizes by special request. Please refer to SMARTPLY MAX FR/FR BUILD Euroclass technical datasheet for additional FR product availability.

## SERVICE

For further information and/or technical advice please contact your local MEDITE SMARTPLY Sales Representative or SMARTPLY Technical Support Personnel through any of our European offices.

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As we continually update our technical datasheets, please check on [www.mdfosb.com](http://www.mdfosb.com) that you have the latest version.

## Important Notes:

The recommendations provided in this technical data sheet for the correct use of SMARTPLY MAX FR/FR BUILD are specifically designed to ensure longevity and quality of performance of this quality product in service. It is therefore essential that these recommendations are strictly followed. The product is designed to be installed by a competent general builder or contractor, experienced with this type of product, in strict accordance with the technical guidance provided in the relevant SMARTPLY MAX product technical datasheets.

It is important that wall and floor/roof fire performance levels, represented in this technical datasheet, and the categorisations that each of these builds achieve must be checked at all times with the most current information which is available from the downloads section at <http://www.structuraltimber.co.uk> Fire Mitigation documents, Product Paper 4.

SMARTPLY EUROPE DAC cannot be held responsible for damages arising from non-adherence to these recommendations, or product failures resulting from inadequate structural design or misuse of this product.

In order to provide comprehensive guidance for the correct use of SMARTPLY MAX FR/FR BUILD OSB3, this technical datasheet makes reference to relevant BS and EN standards and also the Structural Timber Associations own documentation. SMARTPLY EUROPE DAC cannot be held responsible for claims arising from the use of any information that has been extracted from such sources.

This technical data sheet is provided for information purposes only and no liability or responsibility of any kind is accepted by SMARTPLY EUROPE DAC or their representatives. SMARTPLY EUROPE DAC have used reasonable efforts to verify the accuracy of any advise, recommendation or information. SMARTPLY EUROPE DAC reserves the right to alteration of its products, production information and range without notice.



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