Metsä Wood Spruce FireResist

Metsä Wood Spruce FireResist is a surface impregnated softwood plywood panel with fire resistance properties. The European reaction to fire class for SpruceFireResist is B (classified according to EN 13501-1). Metsä Wood Spruce FireResist products can be painted with most common solvent-based paints and varnishes. The product must be protected from weather exposure at all times.

APPLICATIONS

Metsä Wood Spruce FireResist is a construction panel to be used in applications which require enhanced fire safety and reaction to fire class B products. Suitable uses are interior applications under cover and fully protected from the weather (service class 1, EN 1995-1-1).

- Building applications: Wall, ceiling and flooring structures with fire resistance requirements. Bearing and stiffening structures.
- In general: Applications which require enhanced reaction to fire classification or improved fire safety.

MAJOR ADVANTAGES

- Enhanced fire safety
- Reaction to fire class B-s2,d0; B_{fl}-s1
  - very limited contribution to fire
  - enables load bearing panel structures
- Can be painted with most common solvent based paints
- Strong, rigid and lightweight panel
- Easy to machine and install by using conventional woodworking tools and fasteners
- Panel is impact resistant and does not crumble
  - good base for fasteners
- Available with square edges and tongue-and-groove profiles

BASE PLYWOOD

Metsä Wood Spruce FireResist base plywood is made of cross-bonded 3 mm thick coniferous veneers and bonded with a weather and boil- resistant phenolic resin adhesive.

SURFACE PROPERTIES

Metsä Wood Spruce FireResist panels have a light yellow color. Surface is always sanded on both sides and visual properties are similar to normal Spruce Plywood. The surface veneer grades are determined as follows:

Spruce plywood surfaces	Typical properties
II	– sound surface, might be repaired with filler. Unrepaired defects with a ø max. 5 mm are permitted.
III+	– open defects repaired with filler.
III	– standard quality, with open defects such as knotholes and veneer checks.

Primary grade combinations are II/III and III/III.
Classification of Metsä Wood Spruce surface grades meet EN 635 requirements. For more specific surface grade data, see Handbook of Finnish Plywood.

MetsäWood

PANEL SIZES

Metsä Wood Spruce FireResist is available in following sizes:

- 2400 / 2440 / 2500 mm x 1200 / 1220 / 1250 mm
  The first measurement indicates the orientation of the surface veneer grain.

Other sizes are available on request.

SIZE TOLERANCES

Measured in accordance with standard EN 324, the plywood size and squareness tolerances meet EN 315 requirements.

PANEL TOLERANCES

LENGTH / WIDTH	TOLERANCE
< 1000 mm	±1 mm
1000-2000 mm	±2 mm
> 2000 mm	±3 mm
Squareness	±0.1 % or ±1 mm/m
Edge straightness	±0.1 % or ±1 mm/m

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES

The thickness tolerances fulfil the requirements of standard EN 315 and are in part more stringent than the official requirements.

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS *

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m²
15	5	14.3	15.3	6.9
18	6	17.1	18.1	8.3
21	7	20.0	20.9	9.7
24	8	22.9	23.7	11.0
27	9	25.2	26.8	12.4
30	10	28.1	29.9	13.8

* Moisture content of the product affects its dimensions
* Average density of Metsä Wood Spruce plywood is 460 kg/m³ (at relative humidity of RH 65 %)
* Special structures and thicknesses are available on request
* Customised tolerances are possible but must be agreed separately

PERFORMANCE AGAINST FIRE

Metsä Wood Spruce FireResist is surface impregnated with fire retardant. The product is available in following classes (EN 13501-1):

- B – s2, d0 (ceiling and wall structures)
- B_{fl} – s1 (flooring structures)

In reaction to fire class B the product has very limited contribution to fire and there is no potential for sudden spread of flames. In case of fire the production of smoke of the treated panels is limited (s2) and no flaming droplets or particles occur (d0).
Metsä Wood Spruce FireResist is tested and classified by VTT Technical Research Centre of Finland. The product is CE marked and is under the external quality control by VTT.

BONDING CLASSES

Metsä Wood plywood panels are bonded with a weather and boil- resistant phenolic resin adhesive (WBP, BFU, AW, exterior).
The gluing meets the requirements of the following international standards:

- EN 314-2 / Class 3 (exterior)
- DIN 68705-3 / BFU 100
- BS 6566 Part 8 / WBP

FORMALDEHYDE EMISSIONS

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Spruce panels falls far below the Class E1 requirement of ≤ 0,100 ppm and fulfils also the most stringent requirements in the world (≤ 0,030 ppm). The formaldehyde emission of Metsä Wood Spruce is approximately 0,018 ppm. FireResist treatment does not contain any formaldehyde.

PANEL STRENGTH PROPERTIES

Metsä Wood Spruce strength and elastic properties are specified according to standards EN 789 and EN 1058 and can be found in the VTT certificate 4/95.

OTHER TECHNICAL INFORMATION

Metsä Wood FireResist plywood panels are designed to be used in interior applications. The product is classified for permanent use in interior applications according to NT Fire 054 criteria, class INT.

MACHINING

Metsä Wood Spruce FireResist plywood can be delivered with tongue-and-groove edge machining either on two sides or on four sides. Spruce FireResist panels are always sanded.

PACKING

Metsä Wood Spruce FireResist panels are packed in moisture resistant plastic wrapping.

PACKING QUANTITIES

	NUMBER OF PANELS PER PALLET BY THICKNESS					
PANEL SIZE mm	15	18	21	24	27	30
2400/2440 x 2500 x 1200/1220/1250	65	55	45	40	35	30

WASTE HANDLING

Disposal of Metsä Wood Spruce FireResist panels should be carried out in accordance with local regulations. Spruce FireResist plywood can be considered as biofuel (EN 14961-1) and it can be safely burnt when the combustion temperature is at least 850°C and correct combustion conditions are maintained. The product does not contain heavy metals, boron or halogenated compounds.

FURTHER INFORMATION

- VTT certificate 4/95, 2012
- Handbook of Finnish Plywood, Finnish Forest Industries Federation, 2001
- www.metsawood.com

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