# Spruce Ply
## MouldGuard

Metsä Wood Spruce MouldGuard is a surface impregnated softwood plywood that significantly reduces the risk of mould growth compared to unprotected softwood plywood. The product provides a ready-to-use surface in humid conditions, with a natural visual quality.

### APPLICATIONS

Metsä Wood Spruce MouldGuard is a multi-purpose construction panel for
conditions where the relative humidity may exceed 75%. It can be used in the same way as standard Metsä Wood Spruce plywood, but it should be protected from direct rain and UV radiation. Direct contact with foodstuffs, animal feed or similar must be avoided.

- Building applications: roof, floor and wall structures, agricultural buildings, attics, roof overhangs etc.
- Renovation: repairing, improving and renovating buildings
- In general: applications with a risk of increased humidity, such as unheated buildings and structures, e.g. garages, roof panels

### MAJOR ADVANTAGES

- **Improved resistance to mould and blue stain in humid conditions**
- **Ready-to-use surface saves time at the construction site**
- **Strong, rigid and lightweight**
- **Easy to machine and install using conventional woodworking tools and fasteners**
- **Panel is impact resistant and does not crumble**
- **Good base for fasteners**
- **Weather- and boil-proof bonding**
- **Available with square edge and tongue-and-groove profiles**

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## BASE PLYWOOD

The base plywood of Metsä Wood Spruce MouldGuard is Metsä Wood Spruce, which is made of cross-bonded 3 mm thick coniferous veneers and bonded with a weather- and boil-resistant phenol formaldehyde adhesive.

## SURFACE PROPERTIES

Metsä Wood Spruce MouldGuard panels have a light brown colour. The surface can be unsanded or sanded on both sides. Additional coatings are not recommended for Metsä Wood Spruce MouldGuard.

The surface grades are determined by the grade of the surface veneers as follows:

Spruce plywood surfaces -Typical properties
III – standard quality, with open defects such as knotholes and veneer checks.

Classification of Metsä Wood Spruce surface grade meets the requirements of EN 635.

## PANEL SIZES

Metsä Wood Spruce MouldGuard is available in sizes:
- 2400 / 2440 / 2500 mm x 1200 / 1220 / 1250 mm
- 2400 / 2440 mm x 600 / 610 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 the requirements of EN 315.

### PANEL TOLERANCES

| LENGTH / WIDTH | TOLERANCE |
|---|---|
| < 1 000 mm | ± 1 mm |
| 1 000 - 2 000 mm | ± 2 mm |
| >2 000 mm | ± 3 mm |
| Squareness | ± 0.1 % eller ±1 mm/m |
| Edge straightness | ± 0.1 % eller ±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) | (no.) | min. (mm) | max. (mm) | kg/m² |
| 9 | 3 | 8.8 | 9.5 | 4.1 |
| 12 | 4 | 11.5 | 12.5 | 5.5 |
| 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 |

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

## PERFORMANCE AGAINST MOULD GROWTH

Metsä Wood Spruce MouldGuard is surface impregnated with a wood preservative. Spruce MouldGuard has been tested by VTT Technical Research Centre of Finland. According to the test results, the mould and blue stain resistance is significantly better (4-5 times) than standard Metsä Wood Spruce plywood.

The preservative is classified for hazard class 3 (EN 599-1). The efficiency of the chemical has been verified according to the EN 113 (decay) and EN 152-1 (blue stain) tests.

Production of Spruce MouldGuard is controlled by VTT.

Biocidal Products Regulation (EU) No 528/2012

Spruce MouldGuard is treated with biocide:
- preservative surface treatment reduces the risk of mould growt and blue stain
- active substances: propiconazole, 3-iodo-2-propynyl butylcarbamate
- direct contact to foodstuffs or animal feed should be avoided.

## BONDING CLASSES

Metsä Wood plywood panels are bonded with a weather- and boilresistant phenol formaldehyde adhesive. The gluing meets the requirements of the standard EN 314-2 / Class 3 (exterior).

## FORMALDEHYDE EMISSIONS

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Spruce falls far below the Class E1 requirement of ≤ 0.100 ppm and also fulfils the most stringent requirements (≤ 0.030 ppm). The formaldehyde emission of Metsä Wood Spruce is approximately 0.018 ppm. MouldGuard treatment does not contain any formaldehyde

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## PANEL STRENGTH PROPERTIES

Metsä Wood Spruce MouldGuard is a CE marked product and its strength and elasticity properties are identical to the properties of standard Metsä Wood Spruce plywood. The properties are specified according to standards EN 789 and EN 1058 and can be found in the Metsä Wood Spruce MouldGuard Declaration of Performance (DoP). The DoP documents can be downloaded from www.metsawood.com/dop.

## MACHINING

Metsä Wood Spruce MouldGuard panels can be delivered with tongue-and-groove
edge machining on either two sides or four sides. Tongue-and-groove panels are always sanded. Tongue-and-groove machining decreases net panel size by 10mm. Tongue-and-groove machining is available for panel thicknesses ≥ 12 mm.

## PACKAGING

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

### PACKING QUANTITIES

| | NUMBER OF PANELS PER PALLET BY THICKNESS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **PANEL SIZE mm** | **9** | **12** | **15** | **18** | **21** | **24** | **27** | **30** |
| 2400/2440/2500 x 1200/1220/1250 | 110 | 85 | 65 | 55 | 45 | 40 | 35 | 30 |

## PRODUCT DISPOSAL

Metsä Wood Spruce MouldGuard can be considered a biofuel (EN 14961-1) and it can be safely burnt when the combustion temperature is at least 850 °C and the correct combustion conditions are maintained. Due to the preservative treatment, the correct combustion conditions and suitable waste-burning plants should be checked locally.

## FURTHER INFORMATION

- Metsä Wood Spruce MouldGuard Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Spruce Plywood Manual
- Metsä Wood Spruce Plywood for Construction brochure

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