

# Spruce Ply



Metsä Wood Spruce is an uncoated softwood plywood manufactured from a long-grained, homogenous Nordic conifer with straight fibres. It is an excellent general purpose construction panel, ideal for both interior and exterior construction work and any other uses where strength, stability, light weight and versatility are valued.

## APPLICATIONS

Metsä Wood Spruce is a multi-purpose construction panel that is also suitable for various other applications.

- **Building applications:** floor, wall and roof structures, renovations, agricultural structures, pedestrian bridges, construction platforms etc.
- **Concrete formwork:** concrete moulds for arched casting and other loosepanel formwork
- **Transport industry:** walls of containers, coaches and trailers etc.
- **Other applications:** packing applications, furniture, fences, hoardings, canopies etc.

## MAJOR ADVANTAGES

- **Lightweight and dimensionally stable**
- **Strong and rigid**
- **Can act simultaneously as load-bearing construction and stiffening element**
- **Easy to machine and install 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**
- **Weather- and boil-proof bonding**
- **Made of sustainable Nordic wood and PEFC (PEFC/02-31-381) certified**

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## BASE PLYWOOD

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

## PANEL SIZES

Metsä Wood Spruce 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.

## SURFACE PROPERTIES

Metsä Wood Spruce plywood panels can be unsanded or sanded on both sides. The surface can be treated with standard paints, lacquers, varnishes and protection treatments applicable to wood products. It is recommended to confirm the compatibility of the surface treatment with the supplier.

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

Spruce plywood surfaces -Typical properties

II – sound surface, might be repaired with filler, unrepaired defects with 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 grade meets the requirements of EN 635.

## 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 % 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 PLYS	THICKNESS TOLERANCE		WEIGHT
(mm)	(no.)	min. (mm)	max. (mm)	kg/m <sup>2</sup>
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/m<sup>3</sup> (at a relative humidity of 65%)

\* Special structures and thicknesses are available on request

\* Customised tolerances are possible but must be agreed separately

## BONDING CLASSES

Metsä Wood plywood panels are bonded with a weather- and boil-resistant 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 in the world (≤ 0.030 ppm). The formaldehyde emission of Metsä Wood Spruce is approximately 0.018 ppm.

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## APPROVALS AND DESIGN PROPERTIES

Metsä Wood Spruce is CE and UKCA marked and the design properties are determined according to standard EN 13986. The design properties given in the Declaration of Performance (DoP) and in the UK Declaration of Conformity (UK DoC) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from [www.metsawood.com/dop](http://www.metsawood.com/dop) and the UK DoC documents can be downloaded from [www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc).

Metsä Wood Spruce has also national approvals in Norway, Netherlands and Japan. Design properties for structural design outside Europe are given in the related approval documents.

Spruce plywood production is managed according to the principles of standard ISO 9001. The quality and the constancy of performance of the product is controlled by regular third party inspections and audits.

## MACHINING

Metsä Wood Spruce plywood 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 10 mm. Tongue-and-groove machining is available for panel thicknesses  $\geq 12$  mm.

## PACKAGING

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

## PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS							
	9	12	15	18	21	24	27	30
2400/2440/2500 x 1200/1220/1250	110	85	65	55	45	40	35	30
2400/2440 x 600/610	220	170	130	110	90	80	70	60

## FURTHER INFORMATION

- Metsä Wood Spruce Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Metsä Wood Spruce the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Metsä Wood Spruce Plywood Manual
- Metsä Wood Spruce Plywood for Construction brochure
- Metsä Wood Concrete Formwork brochure

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