

Birch Ply

KingSize



Metsä Wood KingSize is an extra large size birch plywood panel jointed from standard size panels. KingSize panels enable larger one piece components. KingSize panels are available uncoated or overlaid with phenolic film.

Applications

Metsä Wood KingSize is suitable for applications that require large size panels and high technical properties. Larger panels facilitate and accelerate installation and provide structures with a high degree of rigidity.

- Transport industry: Trailer, truck, lorry, van and refrigerated trailer floors, container floors, walls and ceilings, passenger car floors, railway wagon floors and ship/boat decking
- Building applications: Concrete formwork, loading docks, piers, stages and sport stands

Major advantages

- **Extra large sizes**
- **Strong and rigid**
- **Withstands impacts and other forms of bruising**
- **Available with durable and weather resistant overlays**
- **Dimensionally stable**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Environmentally friendly**
- **Weather- and boil-proof bonding**

Base plywood

The base plywood of Metsä Wood KingSize is Metsä Wood Birch. Birch plywood is made of cross-bonded 1.4 mm thick birch veneers bonded with weather- and boil-resistant phenol formaldehyde adhesive.

KingSize panels are scarf-jointed from standard size birch plywood panels using weather-resistant adhesive. The scarf-joints appear as thin, visible lines on both sides of the panel, running perpendicularly to the panel length.

Overlay

Metsä Wood KingSize panels can be either wood faced or overlaid with phenolic films.

The main King Size panel options are:

- Metsä Wood Birch KingSize (BB/WG)
- Metsä Wood Form KingSize (220 g/m², smooth surface)
- Metsä Wood Deck KingSize (220 g/m², wire mesh surface)

The reverse side is overlaid with smooth phenolic film.

Surface properties

Metsä Wood KingSize panels have the same surface properties as the original panels, possibly with slight differences in colouration and gloss between the jointed panels. The surface quality of the wood faced KingSize panels is BB/WG. The scarf-joint may cause a slight variation in the thickness.

Surface properties are dependent on the overlay type. More information on the overlay selection and the surface properties of a single overlay type, contact Metsä Wood Plywood sales or see particular Product Data Sheet (Metsä Wood Birch, Form or Deck).

Edge sealing

Panel edges of the overlaid panels are sealed against moisture absorption with acrylic edge sealing paint. The colour of the edge sealing is normally dark brown. Even though edge sealing slows down the absorption of moisture into the panel, it does not eliminate it completely.

Panel sizes

Maximum size of Metsä Wood KingSize is 13,500 mm x 2,500 mm.

The first measurement indicates the orientation of the surface veneer grain.

Size tolerances

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

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

Thickness, structures and thickness tolerances

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS *

NOMINAL THICKNESS (mm)	NUMBER OF PLIES (pcs)	THICKNESS TOLERANCE		WEIGHT (kg/m ²)
		min. (mm)	max. (mm)	
12	9	11.3	12.5	8.2
15	11	14.1	15.3	10.2
18	13	16.9	18.1	12.2
21	15	19.8	20.9	14.3
24	17	22.7	23.7	16.3
27	19	25.0	26.8	18.4
30	21	27.9	29.9	20.4

* Moisture content of the product affects its dimensions

* Average density of Metsä Wood birch plywood is 680 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

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).

The scarf joint is glued with weather-resistant melamine or resorcinol adhesive.

Formaldehyde emissions

Formaldehyde emissions are dependent on the overlay type. More information on the formaldehyde emissions of a single overlay type, see particular Product Data Sheet (Metsä Wood Birch, Form or Deck).

Mechanical properties

Due to the scarf jointed core plywood, the strength values of Metsä Wood KingSize in the longitudinal direction of the panel are ca. 65 % of standard Metsä Wood Birch plywood values. In the cross direction of the panel the strength values are similar to standard Birch plywood. Stiffness values in both directions are similar to standard Birch plywood.

THICKNESS* (mm)	MEAN MODULUS OF ELASTICITY** (N/mm ²)		CHARACTERISTIC BENDING STRENGTH** (N/mm ²)	
		⊥		⊥
12	10,719	6,781	27.9	33.2
15	10,316	7,184	26.8	33.8
18	10,048	7,452	26.1	34.1
21	9,858	7,642	25.6	34.3
24	9,717	7,783	25.3	34.4
27	9,607	7,893	25.0	34.5
30	9,519	7,981	24.8	34.6

* Moisture content 12 %

** Properties determined according to EN 789 standard

The Concrete formwork design data (permissible concrete pressure tables, design nomograms) for all Metsä Wood formwork panels can be found in Metsä Wood Concrete Formwork technical data.

Machining

Metsä Wood KingSize plywood panels can be machined according to customer specification on request.

Packaging

Metsä Wood KingSize panels are packed either in covered pallets or moisture-resistant plastic wrapping. The packing quantities must be agreed case by case.

Further information

- Metsä Wood Plywood for transport industry brochure
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data

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