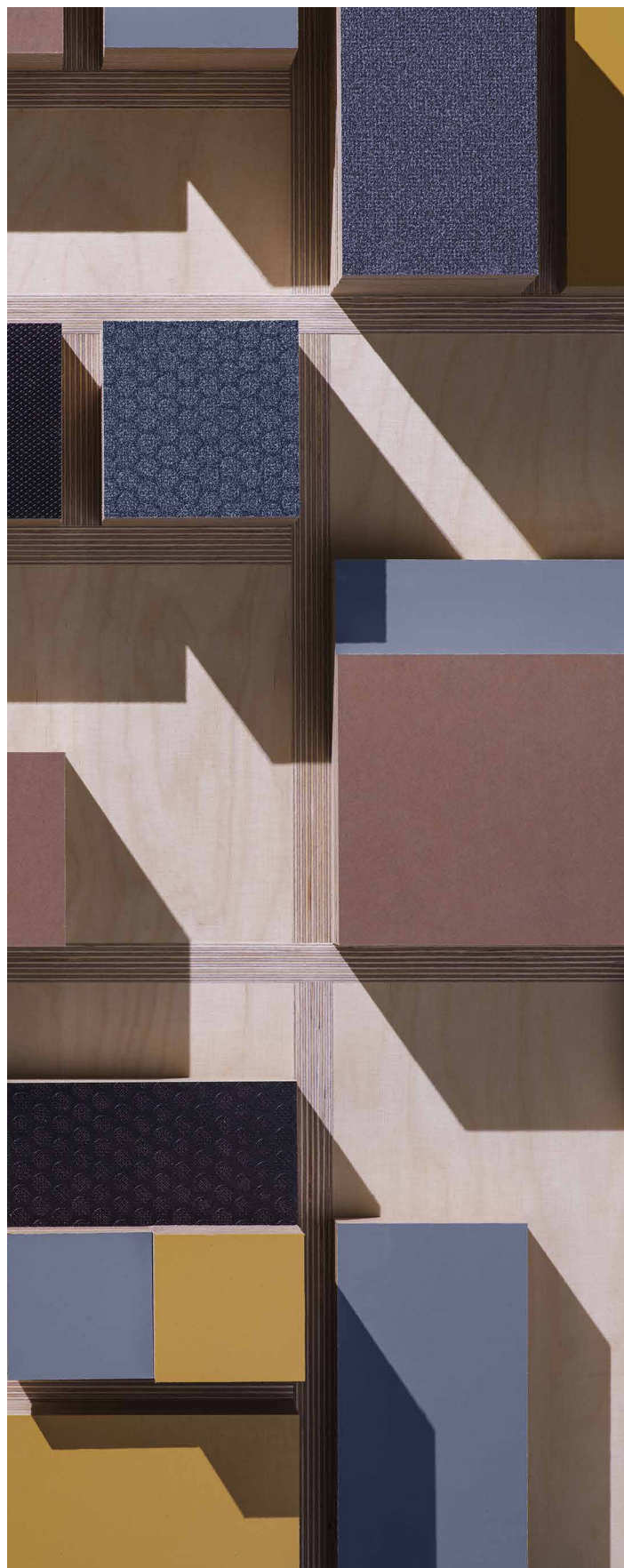


Birch Ply



METSÄ WOOD BIRCH PLYWOOD PRODUCTS

CONTENTS

Birch, Birch L	2-3
Birch XL	4-5
KingSize	6-7
Deck, Deck L	8-10
Deck XL	11-12
Floor, Floor L	13-14
Form, Form L	15-17
FormPLUS	18-20
Form XL	21-23
Top, Top L	24-25
Integra	26-28
SP	29-30
Granit, Granit L	31-32
Laser	33-34
Flex	35-36
Flex L	37-38
Flex Smooth	39-40
Flex XL	41-42
Sonex Light	43-44
Phoenix	45-46

Birch Ply

Birch
Birch L



Metsä Wood Birch is a high-quality Finnish plywood product sanded on both sides. Birch plywood can be used for a wide range of applications. Metsä Wood Birch is available in various sizes: standard, L, XL and KingSize.

Applications

Metsä Wood Birch is a multipurpose panel for different uses where a strong and rigid panel is needed.

- Transport industry: road transport and railway transport vehicle floors and walls, LNG carriers, container floors, flight cases etc.
- Building applications: floor and roof structures, interior cladding, sports hall floors, scaffolding, doors and door surfaces etc.
- Other applications: packing applications, furniture, toys etc.

Major advantages

- **Strong and rigid**
- **Excellent strength-to-weight ratio**
- **Dimensionally stable**
- **Smooth, hard and durable surface**
- **High quality visual surface**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Environmentally friendly**
- **Weather- and boil-proof bonding**

Base plywood

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

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Surface properties

Metsä Wood Birch plywood panels are sanded on both sides and their surface is smooth, hard and durable. The surface can be treated with standard paints, lacquers, varnishes and protection treatments applicable on wood products. Confirm the compatibility of surface treatment from the supplier.

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

Birch plywood surfaces	Typical properties
S (II)	– painting grade
BB (III)	– standard grade (patched)
WG (IV)	– reverse grade

Classification of Metsä Wood Birch surface grade meets EN 635 requirements.

Panel sizes

		WIDTH (mm)						
		LENGTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660 4,110
Birch	1,200*		■	■	■	■	■	■
	1,220*		■	■	■	■	■	■
	1,250*		■	■	■	■	■	■
	1,500*		■	■	■	■	■	■
	1,525*		■	■	■	■	■	■
Birch L	1,870*		■	■	■	■	■	■
	2,020*		■	■	■	■	■	■

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

■ = standard panel size

Larger size scarf-jointed XL and KingSize panels are also available by special order.

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

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/m ²
6.5	5	6.1	6.9	4.4
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	29.9	20.4
35	25	33.5	35.5	23.8
40	29	38.8	41.2	27.2
45	32	43.6	46.4	30.6
50	35	48.5	51.5	34.0

* 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

* Birch L is available up to thickness of 30 mm

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 Birch 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 Birch is approximately 0.013 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood Birch panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

	NUMBER OF PANELS PER PALLET BY THICKNESS								
PANEL SIZE (mm)	6.5	9	12	15	18	21	24	27	30
1,500 / 1,525 x 2,400 – 3,660									
1,200/1,220/1,250 x 2,850 – 3,660	90	65	50	40	35	30	25	25	20
1,500/1,525 x 1,500 – 2,135									
1,200/1,220/1,250 x 1,200 – 2,800	140	100	75	60	50	45	40	35	30
1,500/1,525 x 3,670 – 4,110									
1,870/2,020 x 1,870 – 4,110	70	50	35	30	25	20	15	15	15
1,870 / 2,020 x 1,870 / 2,020	140	100	70	60	50	40	30	30	30

Further information

- Metsä Wood Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Birch XL Product Data Sheet
- Metsä Wood KingSize Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

Birch XL



Metsä Wood Birch XL is an extra large size birch plywood panel jointed from standard size panels. Birch XL panels enable larger one piece components. The largest available panel size is 6,000 mm x 2,200 mm.

Applications

Metsä Wood Birch XL 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: floor and roof structures, concrete element industry, etc.
- Other applications: packing applications, furniture, toys etc.

Major advantages

- 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 Birch XL 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.

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

Surface properties

Metsä Wood Birch XL 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 Birch XL panels is BB/BB. Birch XL panels are sanded on both sides.

Panel sizes

Metsä Wood Birch XL length 4,100 to 6,000 and/or width 2,000 to 2,200 mm. Smaller panel sizes without scarf joint are available in standard and L sizes.

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)	
9	7	8.2	9.5	6.1
12	9	10.9	12.5	8.2
15	11	13.7	15.3	10.2
18	13	16.5	18.1	12.2
21	15	19.4	20.9	14.3
24	17	22.3	23.7	16.3
27	19	24.6	26.8	18.4
30	21	27.5	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 adhesive.

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Birch XL 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 Birch XL is approximately 0.013 ppm.

Panel strength properties

Due to the scarf jointed core plywood, the strength values of Metsä Wood Birch XL 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.

MECHANICAL PROPERTIES

THICKNESS* (mm)	MEAN MODULUS OF ELASTICITY** (N/mm ²)		CHARACTERISTIC BENDING STRENGTH** (N/mm ²)	
		⊥		⊥
9	11,395	6,105	29.6	32.1
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

Machining

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

Packing

Metsä Wood Birch XL 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
3,000 x 2,200	80	60	45	40	30	30	25	20
4,000 x 2,200	60	45	35	30	25	20	20	15
5,400 x 2,200	45	30	25	25	20	15	15	10
6,000 x 2,200	35	25	20	20	15	15	15	10

Further information

- Metsä Wood Transport brochure
- Metsä Wood KingSize Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

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	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
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 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).

Panel strength 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.

MECHANICAL PROPERTIES

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.

Packing

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

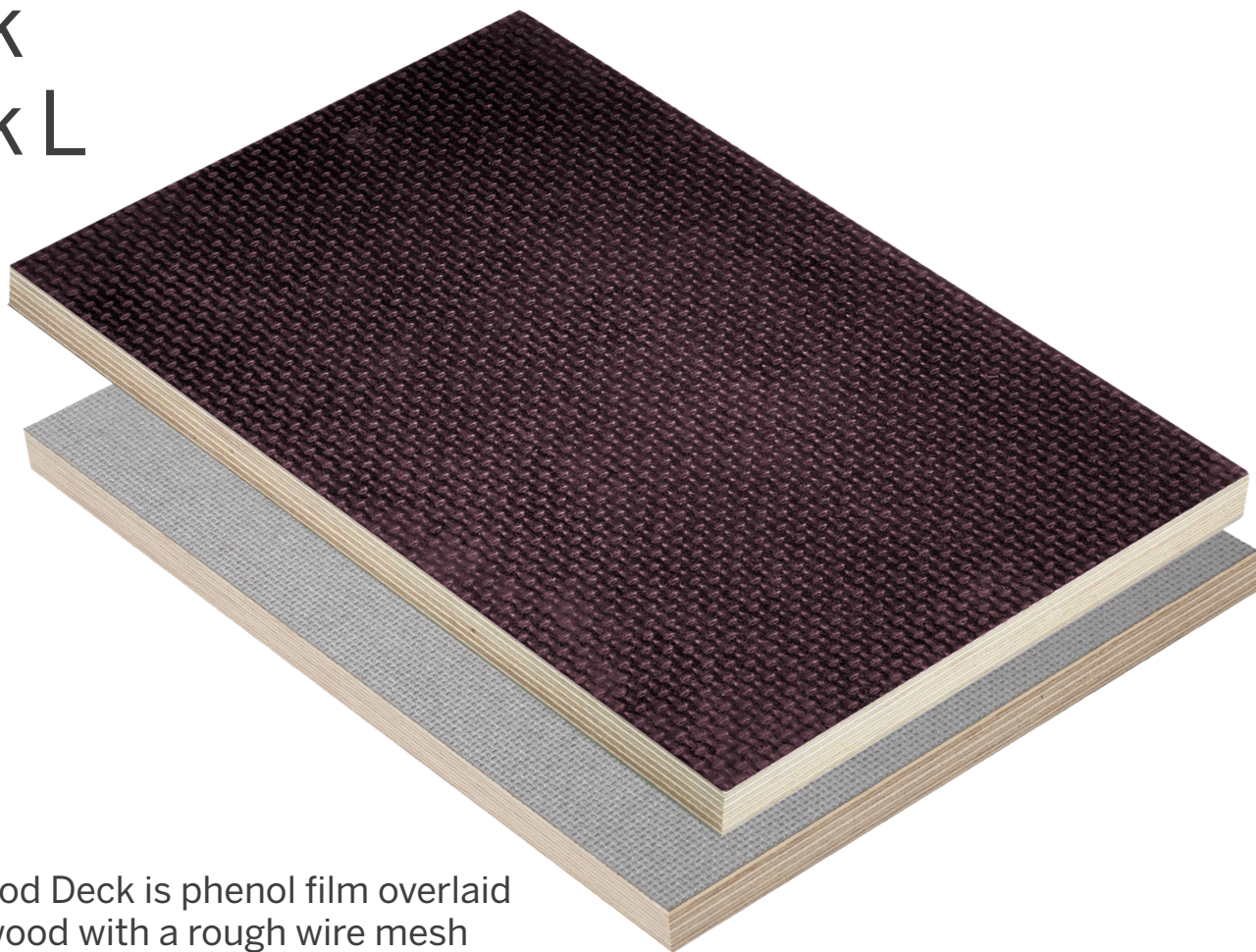
Further information

- Metsä Wood Transport brochure
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Deck Deck L



Metsä Wood Deck is phenol film overlaid birch plywood with a rough wire mesh pattern. The rough-surfaced Deck is durable, multipurpose flooring panel. Metsä Wood Deck is available in various sizes: standard, L, XL and KingSize.

Applications

Metsä Wood Deck is an ideal panel for applications that require highly wear-resistant and rough surfaces:

- **Transport industry:** Vehicle floors (trailers, trucks, lorries, busses, vans etc.), railway wagon floors, ship decking, transport platforms etc.
- **Building applications:** Warehouse and factory hall floors, loading docks, pedestrian bridges, piers, parking facilities, warehouse shelves, scaffolding etc.

Major advantages

- Slip resistant wire mesh surface
- Durable and weather-resistant overlay
- Excellent strength-to-weight ratio
- Dimensionally stable
- Strong and rigid
- Withstands impacts and other forms of bruising
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Easy to clean
- Good chemical resistance
- Environmentally friendly
- Weather- and boil-proof bonding

Base plywood

The base plywood of Metsä Wood Deck 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.

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Overlay

The panel is overlaid with a durable phenolic film, and a rough wire mesh pattern is pressed into the surface during hot-pressing. A smooth phenolic film is normally applied to the reverse side. A film with a basis weight of 120 g/m² is generally used, but standard panel sizes are available also with 220 g/m² film. Metsä Wood Deck L is available only with 220 g/m² film.

Standard film colours for Deck and Deck L are dark brown and grey. The phenol film is not UV resistant and the colour may change when exposed to sunlight over prolonged periods.

Surface properties

Metsä Wood Deck surface is wire mesh patterned. The surface is hard, rough and highly resistant to abrasion and rolling wear. The surface is also moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam.

ABRASION AND ROLLING WEAR RESISTANCE*

	OVERLAY WEIGHT	TABER REVOLUTIONS**	ROLLING WEAR***
Deck (dark brown)	120 g / m ²	350	3,500
Deck (dark brown)	220 g / m ²	700	5,000
Deck (grey)	220 g / m ²	500	2,500

* Values are indicative and valid for new unused panels
** Abrasion resistance is tested according to EN 438-2 / DIN 53799
*** Rolling wear resistance is determined by method corresponding to SS 923508. Rolling wear is an average calculated from the random rolling movements with a load of 200 kg, before the first signs of breakdown occur

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The standard colours of the edge sealing are dark brown and grey. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Panel sizes

WIDTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660	4,110
LENGTH (mm)							
Deck	1,200*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
	1,220*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
	1,250*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
	1,500*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■ ■ ■
	1,525*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■ ■ ■
Deck L	1,870*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■ ■ ■
	2,020*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■ ■ ■

* The measurement indicates the orientation of the surface veneer grain.
■ = standard panel size with dark brown overlay
■ = standard panel size with grey overlay
■ ■ = available on request

Other sizes are available on request. Larger size scarf-jointed XL and KingSize panels are also available by special order.

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

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/m ²
6.5	5	6.1	6.9	4.4
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	29.9	20.4
35	25	33.5	35.5	23.8

* 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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Deck 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 Deck is approximately 0.017 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood Deck panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

	NUMBER OF PANELS PER PALLET BY THICKNESS								
PANEL SIZE (mm)	6.5	9	12	15	18	21	24	27	30
1,500 / 1,525 x 2,400 – 3,660 1,200/1,220/1,250 x 2,850 – 3,660	90	65	50	40	35	30	25	25	20
1,500/1,525 x 1,500 – 2,135 1,200/1,220/1,250 x 1,200 – 2,800	140	100	75	60	50	45	40	35	30
1,500/1,525 x 3,670 – 4,110 1,870/2,020 x 1,870 – 4,110	70	50	35	30	25	20	15	15	15
1,870 / 2,020 x 1,870 / 2,020	140	100	70	60	50	40	30	30	30

Further information

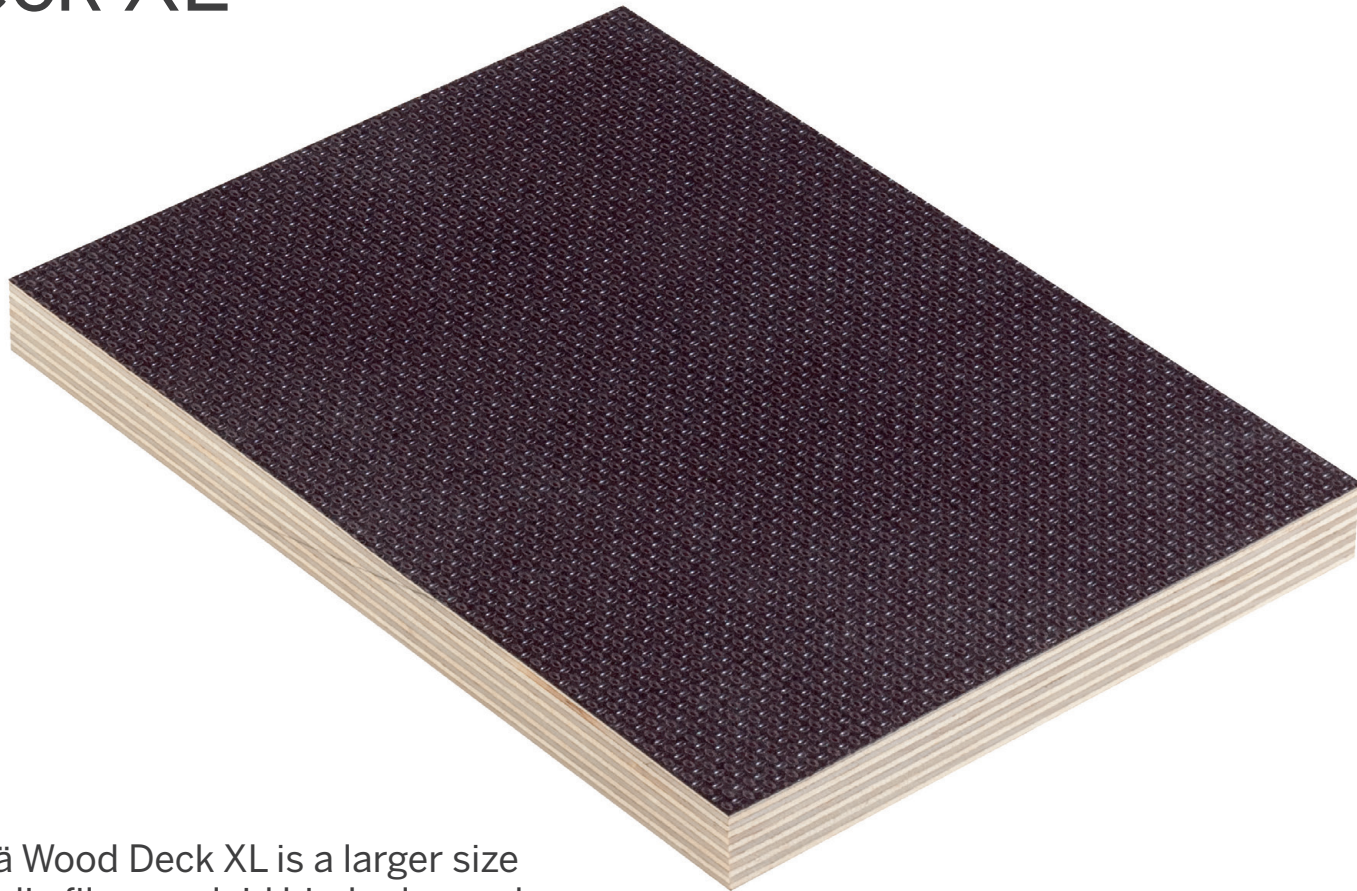
- Metsä Wood Deck Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Transport brochure
- Metsä Wood Deck XL Product Data Sheet
- Metsä Wood KingSize Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

Deck XL



Metsä Wood Deck XL is a larger size phenolic film overlaid birch plywood panel with a wire mesh pattern. Deck XL is a slip resistant flooring panel for demanding transport applications. XL panels enable larger one piece components.

Applications

Metsä Wood Deck XL is suitable for applications that require large size panels with highly wear-resistant and rough surface. Larger panels facilitate and accelerate installation and provide structures with a high degree of rigidity.

- Transport industry: Van, truck, bus and passenger car floors, railway wagon floors, container floors and ship decking
- Building applications: Warehouse and factory hall floors, parking facilities, loading docks, piers and stages

Major advantages

- Larger sizes with invisible joints
- Slip resistant wire mesh surface
- Durable and weather-resistant overlay
- Strong and rigid
- Excellent strength-to-weight ratio
- Dimensionally stable
- Withstands impacts and other forms of bruising
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Easy to clean
- Good chemical resistance
- Environmentally friendly
- Weather- and boil-proof bonding

Base plywood

The base plywood of Metsä Wood Deck XL 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.

The core panel of the large size Deck XL is scarf-jointed from standard size birch plywood panels using weather-resistant adhesive.

Overlay

The panel is overlaid with a durable phenolic film, and a rough wire mesh pattern is pressed onto the surface during hot-pressing. Standard colour is dark brown 220 g/m². The reverse side is a 220 g/m² smooth phenolic film.

Surface properties

Metsä Wood Deck XL surface is wire mesh patterned. The surface is hard and withstands abrasion and rolling wear, is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam.

ABRASION AND ROLLING WEAR RESISTANCE*

	OVERLAY WEIGHT	TABER REVOLUTIONS**	ROLLING WEAR***
Deck XL	220 g / m ²	700	5,000

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

*** Rolling wear resistance is determined by method corresponding to SS 923508. Rolling wear is an average calculated from the random rolling movements with a load of 200 kg, before the first signs of breakdown occur

Edge sealing

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

Panel sizes

Metsä Wood Deck XL length 4,110 to 6,000 and/or width 2,020 to 2,200 mm. Smaller panel sizes without scarf joint are available in standard and L sizes.

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
< 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

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE DECK XL PANELS*

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
12	9	10.9	12.5	8.2
15	11	13.7	15.3	10.2
18	13	16.5	18.1	12.2
21	15	19.4	20.9	14.3
24	17	22.3	23.7	16.3

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 adhesive.

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Deck XL 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 Deck XL is approximately 0.017 ppm.

Panel strength properties

Due to the scarf jointed core plywood, the strength values of Metsä Wood Deck XL 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.

MECHANICAL PROPERTIES

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

* Moisture content 12 %

** Properties determined according to EN 789 standard

Machining

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

Packing

Metsä Wood Deck XL panels are packed in moisture-resistant plastic wrapping. The panel wear face is facing up in the packing.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS				
	12	15	18	21	24
3,000 x 2,200	60	45	40	30	30
4,000 x 2,200	45	35	30	25	20
5,400 x 2,200	30	25	25	20	15
6,000 x 2,200	25	20	20	15	15

Further information

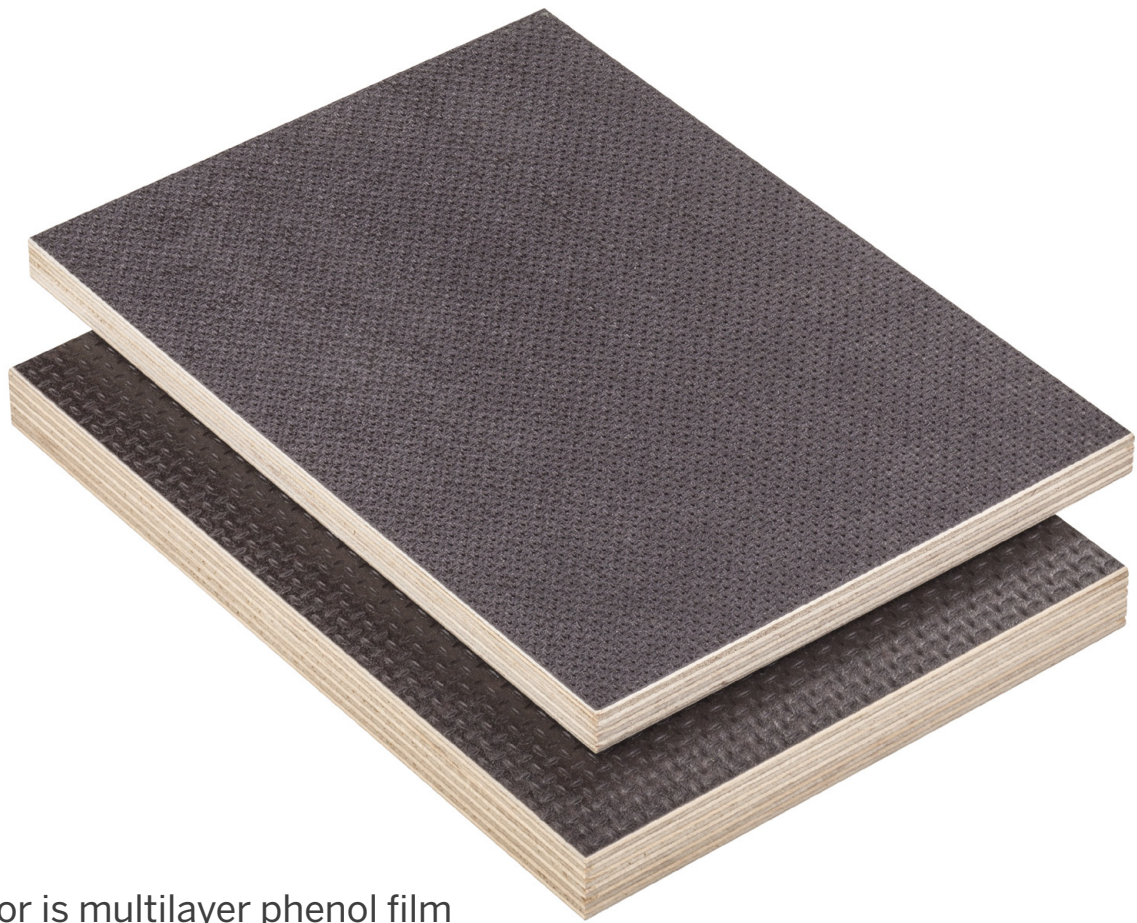
- Metsä Wood Transport brochure

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Floor

Floor L



Metsä Wood Floor is multilayer phenol film overlaid birch plywood with a rough wire mesh pattern. The rough-surfaced Floor is a heavy-duty, multipurpose plywood flooring panel for applications requiring a reliable, long-lasting anti-slip surface. Metsä Wood Floor is available in various sizes: standard, L and XL.

Applications

Metsä Wood Floor is an ideal panel for transport applications that require highly wear-resistant and rough surfaces:

- Vehicle floors (trailers, trucks, lorries, vans etc.)
- Railway wagon floors
- Ship decking
- Transport platforms

Metsä Wood Floor can also be used in other heavy-duty flooring applications.

Major advantages

- **Extremely durable and weather resistant overlay**
- **Highly slip resistant wire mesh surface which ensures excellent loading safety**
- **Excellent strength-to-weight ratio**
- **Dimensionally stable**
- **Strong and rigid**
- **Withstands impacts and other forms of bruising**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Easy to clean**
- **Good chemical resistance**
- **Environmentally friendly**
- **Weather- and boil-proof bonding**

Base plywood

The base plywood of Metsä Wood Floor 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.

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Overlay

The Floor 500 panel is overlaid with a durable phenolic film, and a tight rough wire mesh pattern is pressed into the surface during hot-pressing. Coarse wire mesh patterned Floor 700 panels available on request. A smooth phenolic film is normally applied to the reverse side. Standard film colour is dark brown. The phenol film is not UV resistant and the colour may change when exposed to sunlight over prolonged periods.

Surface properties

The panel has a rough and hard surface. Thick multi-layer overlay can withstand highly abrasive and rolling wear. The surface is also moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam.

ABRASION AND ROLLING WEAR RESISTANCE*

	TABER REVOLUTIONS**	ROLLING WEAR***
Floor 500 (tight wire mesh)	3,200	7,000
Floor 700 (coarse wire mesh)	4,300	9,000

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

*** Rolling wear resistance is determined by method corresponding to SS 923508. Rolling wear is an average calculated from the random rolling movements with a load of 200 kg, before the first signs of breakdown occur

Edge sealing

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

Panel sizes

		WIDTH (mm)						
		LENGTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660 4,110
Floor	1,200*		■	■	■	■	■	■
	1,220*		■	■	■	■	■	■
	1,250*		■	■	■	■	■	■
	1,500*		■	■	■	■	■	■
	1,525*		■	■	■	■	■	■
Floor L	1,870*		■	■	■	■	■	■
	2,020*		■	■	■	■	■	■

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

■ = standard panel size with tight wire mesh pattern

■ = standard panel size with coarse wire mesh pattern

■ = available on request

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
< 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 PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Floor 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 Floor is approximately 0.017 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood Floor 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
1,500 / 1,525 x 2,400 – 3,660								
1,200/1,220/1,250 x 2,850 – 3,660	65	50	40	35	30	25	25	20
1,500/1,525 x 1,500 – 2,135								
1,200/1,220/1,250 x 1,200 – 2,800	100	75	60	50	45	40	35	30
1,500/1,525 x 3,670 – 4,110								
1,870/2,020 x 1,870 – 4,110	50	35	30	25	20	15	15	15
1,870 / 2,020 x 1,870 / 2,020	100	70	60	50	40	30	30	30

Further information

- Metsä Wood Floor Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Transport brochure

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Form Form L



Metsä Wood Form is birch plywood, in which both sides are overlaid with phenol film and the edges are sealed. Form plywood is an ideal formwork panel for smooth surfaced concrete elements. It can also be used as a multipurpose, maintenance-free panel for various other uses. Metsä Wood Form is available in sizes standard, L, XL and KingSize.

Applications

Concrete Formwork:

Metsä Wood Form is a smooth surface maintenance-free panel for different concrete formwork uses: system shuttering, girder formwork, regeneration panels, element industry and concrete block industry.

The durable overlays ensure smooth concrete cast finish and multiple uses. The number of uses can rise up to 30 –100 but is highly dependent on the used overlay, site practice, requirements of concrete finish, the quality of release agent and the maintenance, handling and storage practices.

Use high quality release agent to ensure easier and cleaner release. Make sure that the release agent is suitable with the panel overlay. Clean panels after each use to remove all concrete debris. Seal scratches with water proof paint and fill holes with water resistant filler. Afterwards, apply a fresh coat of release agent prior to each subsequent use.

Other Applications:

Metsä Wood Form is a general panel used in variety of applications

- Transport industry: Transport equipment, containers, trailer side boards, sliding doors, vehicle and flight cases and other transport boxes, bus floor constructions etc.

- Building applications: Agricultural structures, general interior and covered exterior building applications
- Other applications: Packaging applications, sport arenas and equipment

Major advantages

- **Smooth durable overlay**
- **Excellent strength-to-weight ratio**
- **Dimensionally stable**
- **Strong and rigid**
- **Easy to clean and re-use**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Can withstand impacts and other forms of bruising**
- **Environmentally friendly**
- **Weather- and boil-proof bonding**

Base plywood

The base plywood of Metsä Wood Form 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.

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Overlay

A smooth and durable phenolic film is hot-pressed onto the panel surface. The film consists of special base papers impregnated with phenolic resin. A film with a basis weight of 120 g/m² is normally used. With Form L minimum film weight is 220 g/m². Thicker overlays are available on request. Standard film colours for Form and Form L are dark brown and grey. Light brown, yellow and black colours are available for Form on request. The phenol film is not UV resistant and the colour may change when exposed to sunlight over prolonged periods.

Surface properties

The film surface is semi-glossy, smooth, hard and slippery. It with-stands abrasion, is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam. Moisture absorption is minimal.

ABRASION RESISTANCE*

	OVERLAY WEIGHT	TABER REVOLUTIONS**
Form (dark brown)	120 g / m²	350
Form (dark brown)	220 g / m²	700
Form (dark brown)	440 g / m²	1,500
Form (grey)	220 g / m²	700

* Values are indicative and valid for new unused panels
** Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The standard colours of the edge sealing are dark brown and grey. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Panel sizes

	WIDTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660	4,110
	LENGHT (mm)							
Form	1,200*	■ ■	■ ■	■ ■	■ ■	■ ■	■	
	1,220*	■ ■	■ ■	■ ■	■ ■	■ ■	■	
	1,250*	■ ■	■ ■	■ ■	■ ■	■ ■	■	
	1,500*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
	1,525*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
Form L	1,870*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
	2,020*	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■

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

■ = standard panel size with dark brown overlay
■ = standard panel size with grey overlay
■ = available on request

Other sizes are available on request. Larger size scarf-jointed XL and KingSize panels are also available by special order.

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

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
6.5	5	6.1	6.9	4.4
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	29.9	20.4
35	25	33.5	35.5	23.8

* 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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Form 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 Form is approximately 0.017 ppm.

Panel strength properties

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

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 Form plywood panels can be machined according to customer specification on request.

Packing

Metsä Wood Form panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

	NUMBER OF PANELS PER PALLET BY THICKNESS								
PANEL SIZE (mm)	6.5	9	12	15	18	21	24	27	30
1,500 / 1,525 x 2,400 – 3,660	90	65	50	40	35	30	25	25	20
1,200/1,220/1,250 x 2,850 – 3,660									
1,500/1,525 x 1,500 – 2,135	140	100	75	60	50	45	40	35	30
1,200/1,220/1,250 x 1,200 – 2,800									
1,500/1,525 x 3,670 – 4,110	70	50	35	30	25	20	15	15	15
1,870/2,020 x 1,870 – 4,110									
1,870 / 2,020 x 1,870 / 2,020	140	100	70	60	50	40	30	30	30

Further information

- Metsä Wood Form Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data
- Metsä Wood Form XL Product Data Sheet
- Metsä Wood KingSize Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

FormPLUS



Metsä Wood FormPLUS plywood is the phenolic film overlaid panel choice for all formwork uses with high concrete surface quality requirements. FormPLUS plywood surface has a special treatment to resist the surface rippling, which ensures the smooth high quality concrete surface from the first use.

Applications

Metsä Wood FormPLUS is a smooth surface, maintenance-free birch plywood panel for different concrete formwork applications: system shuttering, girder formwork, regeneration panels, element industry and concrete block industry.

The durable overlays ensure smooth concrete finish and multiple uses. The number of uses can rise up to 30 – 100 but is highly dependent on the used overlay, site practice, requirements of concrete finish, the quality of release agent and the maintenance, handling and storage practices.

Use high quality release agent to ensure easier and cleaner release. Make sure that the release agent is suitable with the panel overlay. Clean panels after each use to remove all concrete debris. Seal scratches with water proof paint and fill holes with water resistant filler. Afterwards, apply a fresh coat of release agent prior to each subsequent use.

Major advantages

- Surface resists rippling
- Smooth durable overlay
- Excellent strength-to-weight ratio
- Dimensionally stable
- Strong and rigid
- Easy to clean and re-use
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Can withstand impacts and other forms of bruising
- Environmentally friendly
- Weather- and boil-proof bonding

Base plywood

The base plywood of Metsä Wood FormPLUS 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.

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Overlay

A smooth and durable phenolic film is hot-pressed onto the panel surface. The film consists of special base papers impregnated with phenolic resin. A film with a basis weight of 220 g/m² is normally used. On the backside of the panel, the overlay has Metsä Wood FormPLUS logo imprinted into the panel surface. The overlay can also be ordered with customized logo. Standard film colour is dark brown. The phenol film is not UV resistant and the colour may change when exposed to sunlight over prolonged periods.

Surface properties

The Metsä Wood FormPLUS plywood panel surface has a special treatment which makes the surface moisture-resistant. Hence the FormPLUS panel surface is able to remarkably reduce surface rippling and provides a smooth concrete cast surface from the first use. The treatment is applied to the concrete side only, which normally has dark brown phenolic film without a logo. The backside of the panel has a film overlay with imprinted Metsä Wood FormPLUS logo.

The phenolic film surface is semi-glossy, smooth, hard and slippery. It withstands abrasion, is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam. Moisture absorption is minimal.

ABRASION RESISTANCE*

	OVERLAY WEIGHT	TABER REVOLUTIONS**
FormPLUS	220 g/m²	700

* Values are indicative and valid for new unused panels
**Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Panel sizes

		WIDTH (mm)						
		LENGTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660
Form PLUS	1,200*	■	■	■	■	■	■	■
	1,220*	■	■	■	■	■	■	■
	1,250*	■	■	■	■	■	■	■
	1,500*	■	■	■	■	■	■	■
	1,525*	■	■	■	■	■	■	■

* The measurement indicates the orientation of the surface veneer grain.
■ = standard panel size

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
< 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

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
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3

* 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).

Formaldehyde emissions

Determined according to EN ISO 12460-3, the formaldehyde emitted by Metsä Wood FormPLUS falls far below the Class E1 requirement of ≤ 3.5 mg/(m²*h). The formaldehyde emission of Metsä Wood FormPLUS is approximately 0.2-0.3 mg/(m²*h).

Panel strength properties

Metsä Wood FormPLUS strength and elasticity properties are identical with the Metsä Wood Birch standard plywood properties. The properties are specified according to standards EN 789 and EN 1058 and can be found in the Metsä Wood Birch Declaration of Performance (DoP). DoP documents can be downloaded from www.metsawood.com/dop.

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 FormPLUS plywood panels can be machined according to customer specification on request.

Packing

Metsä Wood FormPLUS panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

NUMBER OF PANELS PER PALLET BY THICKNESS

PANEL SIZE (mm)	12	15	18	21
1,500 /1,525 x 2,400–3,660 1,200/1,220/1,250 x 3,000–3,660	50	40	35	30
1,500 /1,525 x 1,500–2,135 1,200/1,220/1,250 x 1,200–2,750	70	60	50	45

Further information

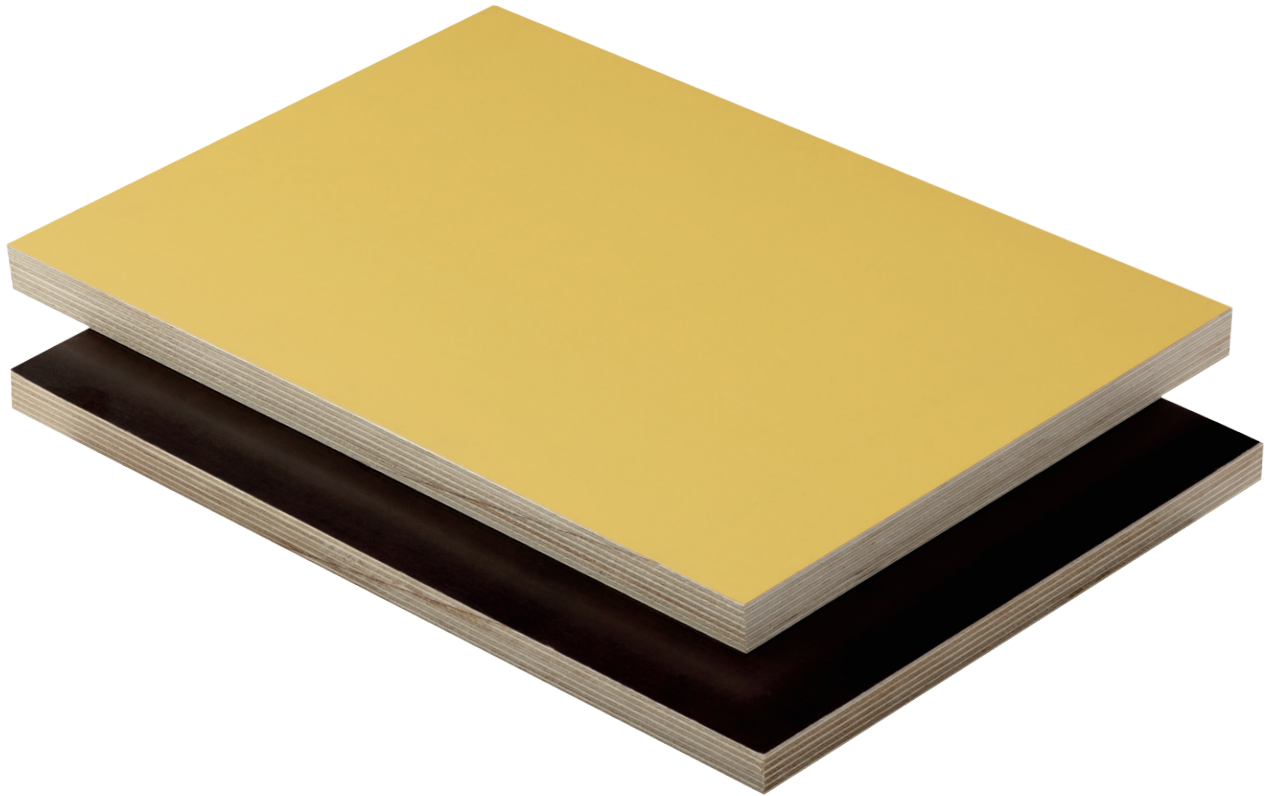
- Metsä Wood Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

Form XL



Metsä Wood Form XL is a larger size birch plywood panel with smooth phenolic overlay. Form XL is a tough-surfaced, durable shuttering panel for demanding formwork applications. The durable overlays and large panel sizes ensure multiple uses and a high quality concrete finish with fewer joints. XL panels enable larger one piece components.

Applications

Concrete formwork

Metsä Wood Form XL is suitable for highly demanding concrete formwork applications:

- Shuttering systems
- Concrete element industry
- Girder formwork

Transport industry

High quality large size Form XL panels can be used in various transport industry applications:

- Trailer bulkheads, side panels and back boards, agricultural trailers
- Bus floor constructions, luggage area floors

Major advantages

- Larger sizes with invisible joints
- Durable and weather resistant overlay
- Strong and rigid
- Easy to clean and re-use
- Good chemical resistance
- Dimensionally stable
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Withstands impacts and other forms of bruising
- Environmentally friendly
- Weather- and boil-proof bonding

Base plywood

The base plywood of Metsä Wood Form XL 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.

The core panel of the large size Form XL is scarf-jointed from standard size birch plywood panels using weather-resistant adhesive.

Overlay

The panel is overlaid with durable and hard phenolic overlay. Standard overlay are 450 g/m² yellow and 220 g/m² dark brown. The reverse side is overlaid with similar overlay than the top face.

The durable overlays ensure smooth concrete cast finish and multiple uses. The number of uses can rise up to 30 – 100 but is highly dependent on the used overlay, site practice, requirements of concrete finish, the quality of release agent and the maintenance, handling and storage practices.

Use high quality release agent to ensure easier and cleaner release. Make sure that the release agent is suitable with the panel overlay. Clean panels after each use to remove all concrete debris. Seal scratches with water proof paint and fill holes with water resistant filler. Afterwards, apply a fresh coat of release agent prior to each subsequent use.

Surface properties

Metsä Wood Form XL surface is smooth, hard and scratch-resistant and withstands abrasion. The surface is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or steam.

ABRASION WEAR RESISTANCE*

	TABER REVOLUTIONS**
Form XL 220 (dark brown)	700
Form XL 450 (yellow)	1,000

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The standard colour of the edge sealing is dark brown for brown overlay and transparent for yellow overlay. Even though edge sealing slows down the absorption of moisture into the panel, it does not eliminate it completely.

Panel sizes

Metsä Wood Form XL is available in sizes:

- 6,000 mm x 2,000 / 2,200 mm
- 5,400 mm x 2,000 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
< 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

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE FORM XL PANELS *

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
15	11	13.7	15.3	10.2
18	13	16.5	18.1	12.2
21	15	19.4	20.9	14.3
24	17	22.3	23.7	16.3

* Moisture content of the product affects its dimensions

* Average density of Metsä Wood Form XL 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 adhesive.

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Form XL 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 Form XL is approximately 0.017 ppm.

>>

Panel strength properties

Due to the scarf jointed core plywood, the strength values of Metsä Wood Form XL 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.

MECHANICAL PROPERTIES*

THICKNESS* (mm)	MEAN MODULUS OF ELASTICITY** (N/mm ²)		CHARACTERISTIC BENDING STRENGTH** (N/mm 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

* 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 Form XL plywood panels can be machined according to customer specification on request.

Packing

Metsä Wood Form XL panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS			
	15	18	21	24
5,400 x 2,000	25	25	20	15
6,000 x 2,200	20	20	15	15

Further information

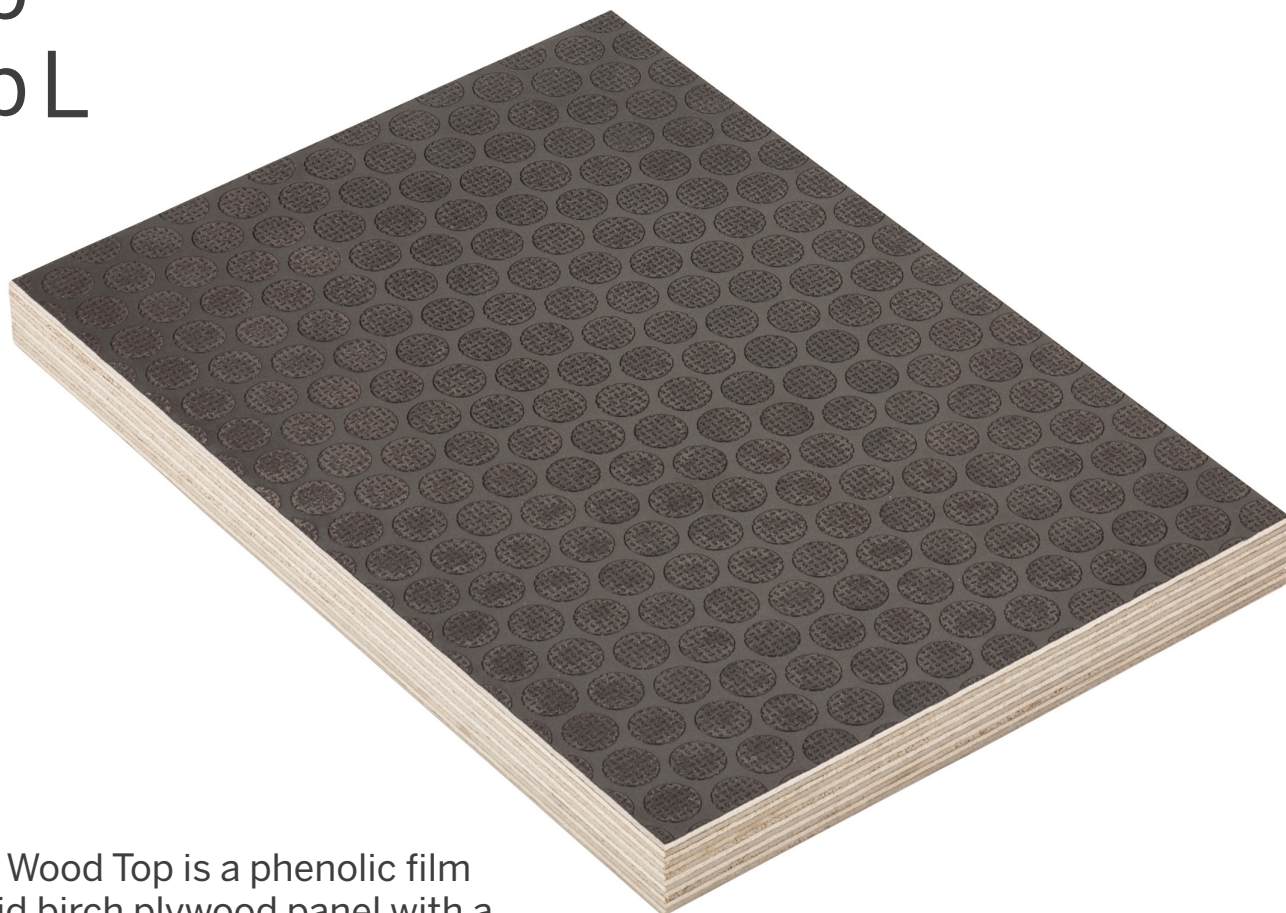
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data
- Metsä Wood Deck XL Product Data Sheet
- Metsä Wood KingSize Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

Top
Top L



Metsä Wood Top is a phenolic film overlaid birch plywood panel with a raised pattern. High visual quality and wear-resistant surface makes Top multipurpose plywood flooring panel. Metsä Wood Top is available in standard and L sizes.

Applications

Metsä Wood Top is an ideal panel for applications that require high quality visual and wear resistant surface:

- **Transport industry:** Vehicle floors (trailers, trucks, lorries, busses, vans, etc.), railway wagon floors, ship decking, transport platforms etc.
- **Building applications:** Working platforms, scaffolding, stages, warehouse and factory hall floors, loading docks, pedestrian bridges, warehouse shelves etc.

Major advantages

- **Durable and weather-resistant overlay**
- **Slip resistant raised pattern surface**
- **Excellent strength-to-weight ratio**
- **Dimensionally stable**
- **Strong and rigid**
- **Withstands impacts and other forms of bruising**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Easy to clean**
- **Good chemical resistance**
- **Environmentally friendly**
- **Weather- and boil-proof bonding**

Base plywood

The base plywood of Metsä Wood Top 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.

Overlay

The patterned phenolic film surface is dark brown, semi-glossy, hard and resistant to impact and abrasion. The phenolic film is also applied to the reverse side which is smooth.

The phenol film is not UV resistant and depending on the overlay type the colour may change when exposed to sunlight over prolonged periods.

Surface properties

The surface is hard and resistant to abrasion and rolling wear. The surface is also moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean with water or stream.

ABRASION AND ROLLING WEAR RESISTANCE*

OVERLAY WEIGHT	TABER REVOLUTIONS**	ROLLING WEAR***
220 g / m ²	700	5,000
440 g / m ²	2,100	7,000

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

*** Rolling wear resistance is determined by method corresponding to SS 923508.
Rolling wear is an average calculated from the random rolling movements with a load of 200 kg, before the first signs of breakdown occur

Edge sealing

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

Panel sizes

WIDTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660	4,110
	LENGTH (mm)						
Top	1,200*	■	■	■	■	■	
	1,220*	■	■	■	■	■	
	1,250*	■	■	■	■	■	
	1,500*	■	■	■	■	■	■
	1,525*	■	■	■	■	■	■
Top L	1,870*	■	■	■	■	■	■
	2,020*	■	■	■	■	■	■

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

■ = standard panel size with dark brown overlay

■ = available on request

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
< 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.

THICKNESS STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS*

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	23.7	23.7	16.3
27	19	26.8	26.8	18.4
30	21	29.9	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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Top 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 Top is approximately 0.017 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood Top panels are packed in moisture-resistance plastic wrapping.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS							
	9	12	15	18	21	24	27	30
1,500/1,525 x 2,400–3,050	65	50	40	35	30	25	25	20
1,200/1,220/1,250 x 3,000–3,050								
1,500/1,525 x 1,500–2,135	100	75	60	50	45	40	35	30
1,200/1,220/1,250 x 1,200–2,750								
1,500/1,525 x 3,060–4,110	50	35	30	25	20	15	15	15
1,870/2,020 x 1,870–4,110								

Further information

- Metsä Wood Top Declaration of Performance
- Metsä Wood Transport brochure

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Integra



Metsä Wood Integra is an overlaid plywood panel with excellent adhesion and painting properties. The durable surface allows the panel to be used in multiple end uses e.g. bonded floor constructions in vehicle frames, painted interior and exterior applications and concrete formwork.

Applications

Metsä Wood Integra with a tailor-made overlay ensures a durable finish with excellent adhesion and painting properties. Integra has a wide application range from paint-base panel to gluable floor components and concrete formwork panels. Integra panels are available in a wide range of thicknesses and sizes.

- **Transport:** Bus floors constructions (UN/ECE Regulation No. 118 certificate), glued trailer floors, transport boxes
- **Concrete Formwork:** Smooth and maintenance-free panel for different formwork uses.
- **Building:** General interior and exterior building applications, hoarding panels, general paint-base panel, agricultural structures, showrooms and displays, stage constructions
- **Other:** Traffic signs, sports arenas and equipment, packaging applications

Major advantages

- Versatile panel
- Surface can be painted or glued
- Excellent strength-to-weight ratio
- Dimensionally stable
- Strong and rigid
- Easy to clean and re-use
- 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 Integra 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.

Designed and tailor-made to serve in demanding applications, birch plywood can be ordered with special oriented veneer structures to provide even higher strength and stiffness properties.

Overlay and surface properties

Metsä Wood Integra Form film surface is smooth, semi-matt, hard and slippery. The durable Integra Form overlay ensures matt, smooth concrete cast finish and multiple uses. Use high quality release agent to ensure easier and cleaner release.

Metsä Wood Integra Deck has a non-slippery wire mesh surface with excellent gluing properties.

Integra overlay withstands abrasion, is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean. Moisture absorption is minimal. Colour of the overlay is red brown. There can be colour variation between the panels and different production lots. The compatibility of a surface coating or a glue type should be confirmed from the supplier. Additionally a test coating/gluing is recommended prior to use.

Gluing and painting options

POSSIBILITIES FOR STRUCTURAL GLUE - ACCORDING TO SIKA

PRE-TREATMENT NO SANDING	ADHESIVE	METSÄ WOOD INTEGRA	
		FORM	DECK
	Sikaflex® -221	X	X
	Sikaflex® -252		X
	Sikaflex® -263		X
	Sikaflex® -265		X
Sika® Aktivator	Sikaflex® -221		X
Sika® Aktivator	Sikaflex® -252	X	X
Sika® Aktivator	Sikaflex® -263	X	X
Sika® Aktivator	Sikaflex® -265	X	X
Sika® Coating Aktivator	Sikaflex® -221	X	X
Sika® Coating Aktivator	Sikaflex® -252	X	X
Sika® Coating Aktivator	Sikaflex® -263	X	X
Sika® Coating Aktivator	Sikaflex® -265	X	X

Technical Service Report 00010-FI-00001-JJA / Oy Sika Finland Ab / Industry 6/13
Testmethod: CQP 033-1 – Bead Adhesion
Substrate: Plywood: Metsä Wood Integra Form and Deck

POSSIBILITIES FOR TRANSPORTATION FLOORING – ACCORDING TO SIKA

Metsä Wood Integra was tested with Sika products for transport applications. SikaSense® - 4335 + SikaCure® - 4935, and SikaSense® - 4600 display good adhesion and strength levels. All the products need to be checked regarding suitability for production processes. Line trials with original customer equipment are recommended.

Technical Service Report
01025-DE2-00001-AL / 27.11.2014 / MetsäWood-FIN

POSSIBILITIES FOR PAINTING – ACCORDING TEKNOS

One of Europe's leading suppliers of industrial coatings Teknos recommends following painting systems with Metsä Wood Integra:

1 C PRODUCTS		2 C PRODUCTS
TopCoat	Nordica Eco/AquaTop	Teknodur 150 / Teknodur Aqua
Primer	Teknol 3881	Teknodur Wood primer 5 / Teknodur primer 5

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Panel sizes

	LENGTH (mm)	WIDTH (mm)					
		2,400	2,440	2,500	3,000	3,050	3,660
Integra	1,200*	■	■	■	■	■	■
	1,220*	■	■	■	■	■	■
	1,250*	■	■	■	■	■	■
	1,500*						
	1,525*						

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

■ = standard panel size

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
< 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 PLIES	THICKNESS TOLERANCE		WEIGHT
		min. (mm)	max. (mm)	
(mm)	(pcs)			kg/m²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Integra 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 Integra is approximately 0.017 ppm.

Panel strength properties

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

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.

Packing

Metsä Wood Integra 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
1,500 / 1,525 x 2,400–3,660								
1,200/1,220/1,250 x 3,000–3,660	65	50	40	35	30	25	25	20
1,500 / 1,525 x 1,500–2,135								
1,200/1,220/1,250 x 1,200–2,750	100	75	60	50	45	40	35	30

Further information

- Metsä Wood Integra Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Concrete Formwork brochure
- Metsä Wood Concrete Formwork technical data
- Metsä Wood Transport brochure

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

01/2021

Birch Ply

SP



Metsä Wood SP is birch plywood panel overlaid with a weatherproof paint base paper. SP provides a reliable and crack resistant painting substrate. The ready to paint surface is suitable for both interior and demanding exterior applications.

Applications

Metsä Wood SP is a general paint base panel for various applications:

- **Building applications:** Interior and exterior cladding, showrooms and displays, traffic noise barriers, stage constructions
- **Transport industry:** Walls and bulk heads in trailers and containers
- **Other applications:** Traffic signs, information signs, billboards, playground equipment, furniture

Major advantages

- Smooth, durable and ready to paint surface
- Suitable for most commercial paint types
- Painted and edge sealed panel is weather and UV resistant
- Excellent strength-to-weight ratio
- Dimensionally stable
- Strong and rigid
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Can withstand impacts and other forms of bruising
- Environmentally friendly
- Weather- and boil-proof bonding

Base plywood

The base plywood of Metsä Wood SP 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.

Overlay

The overlay is lightly impregnated paper, which provides reliable painting substrate. Overlays can be applied to both sides (SP/SP), on one side (SP/BB) or with a smooth phenolic film on the reverse surface (SP/film). Film colour is light brown.

Surface properties

The painting paper forms a ready-to-use, weatherproof painting substrate, which requires no additional preparation. The overlay provides excellent adhesion for an even paint finish.

ABRASION RESISTANCE*

TABER REVOLUTIONS**	
SP	1,000

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed at the mill against moisture absorption with acrylic edge sealing paint. The standard colour of the edge sealing is dark brown. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Painting instructions

The following paint types are suitable for Metsä Wood SP plywood: epoxy, polyurethane and alkyd enamel paints as well as water-based exterior paints. In all cases the paint manufacturer's instructions should be observed. In exterior uses SP plywood should be treated with a primer and top coat paint. The edges, through holes and other machined surfaces should be treated in the similar way as the plain surfaces.

Panel sizes

	LENGTH (mm)	WIDTH (mm)				
		2,400	2,440	2,500	3,000	3,050
SP	1,200*	■	■	■	■	■
	1,220*	■	■	■	■	■
	1,250*	■	■	■	■	■
	1,500*					
	1,525*					

* The measurement indicates the orientation of the surface veneer grain.
■ = standard panel size

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
< 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 PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3
27	19	25.2	26.8	18.4
30	21	28.1	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).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood SP falls far below the Class E1 requirement of ≤ 0.100 ppm. The formaldehyde emission of Metsä Wood SP is approximately 0.050 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood SP panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

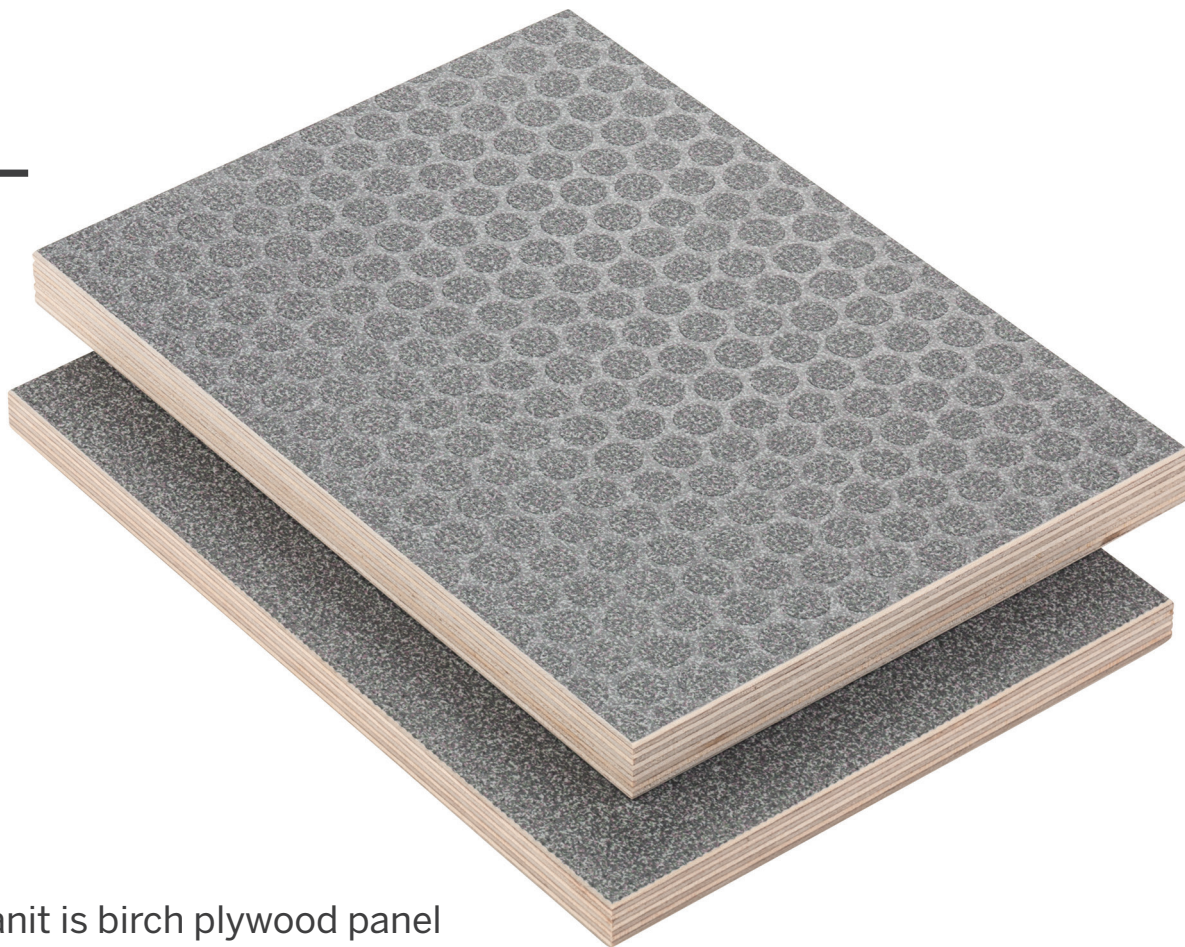
PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS							
	9	12	15	18	21	24	27	30
1,500 / 1,525 x 2,400-3,660	65	50	40	35	30	25	25	20
1,200 / 1,220 / 1,250 x 3,000-3,660								
1,500 / 1,525 x 1,500-2,135	100	75	60	50	45	40	35	30
1,200 / 1,220 / 1,250 x 1,200-2,750								

Further information

- Metsä Wood SP Declaration of Performance (www.metsawood.com/dop)

Birch Ply

Granit Granit L



Metsä Wood Granit is birch plywood panel overlaid with special decorative overlay. The panel surface has wire mesh or raised Top pattern. High visual quality and wear-resistant surface makes Granit durable, multipurpose plywood flooring panel. Metsä Wood Granit is available in standard, L and XL sizes.

Applications

Metsä Wood Granit is an ideal flooring panel for applications that require good slip resistance and good visual quality. Granit has been developed especially for light transport end uses.

Major advantages

- Slip resistant wire mesh surface.
- Special decorative surface.
- Excellent strength-to-weight ratio
- Dimensionally stable
- Strong and rigid
- Withstands impacts and other forms of bruising
- Easy to machine and fasten using conventional woodworking tools and fasteners
- Easy to clean
- Good chemical resistance
- Environmentally friendly

Base plywood

The base plywood of Metsä Wood Granit 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.

Overlay

The film surface is semi-glossy, hard and resistant to impact and abrasion. Granit surface has grey decorative print. The smooth dark brown phenolic film is applied to the reverse side as a backer.

The surface options are:

- Metsä Wood Granit Deck: wire mesh pattern
- Metsä Wood Granit Top: raised round pattern

Surface properties

The surface is hard and resistant to abrasion. The surface is also UV light and moisture-resistant, and can tolerate commonly used chemicals as well as diluted acids and alkalis. The surface is easy to clean.

ABRASION RESISTANCE *

	TABER REVOLUTIONS**
Granit	800

* Values are indicative and valid for new unused panels

** Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The standard colour of the edge sealing is grey. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

Panel sizes

WIDTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660	4,110
Granit	LENGHT (mm)						
	1,200*	■	■	■	■	■	
	1,220*	■	■	■	■	■	
	1,250*	■	■	■	■	■	
	1,500*	■	■	■	■	■	■
	1,525*	■	■	■	■	■	■
Granit L	1,860*	■	■	■	■	■	■

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

■ = standard panel size

■ = available on request

Other sizes are available on request. Larger size scarf-jointed XL panels are also available by special order.

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

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/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3

* 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).

Formaldehyde emissions

Determined according to EN ISO 12460-3, the formaldehyde emitted by Metsä Wood Granit falls far below the Class E1 requirement of ≤ 3.5 mg/(m²*h). The formaldehyde emission of Metsä Wood Granit is approximately 0.6 mg/(m²*h).

Panel strength properties

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

Machining

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

Packing

Metsä Wood Granit panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

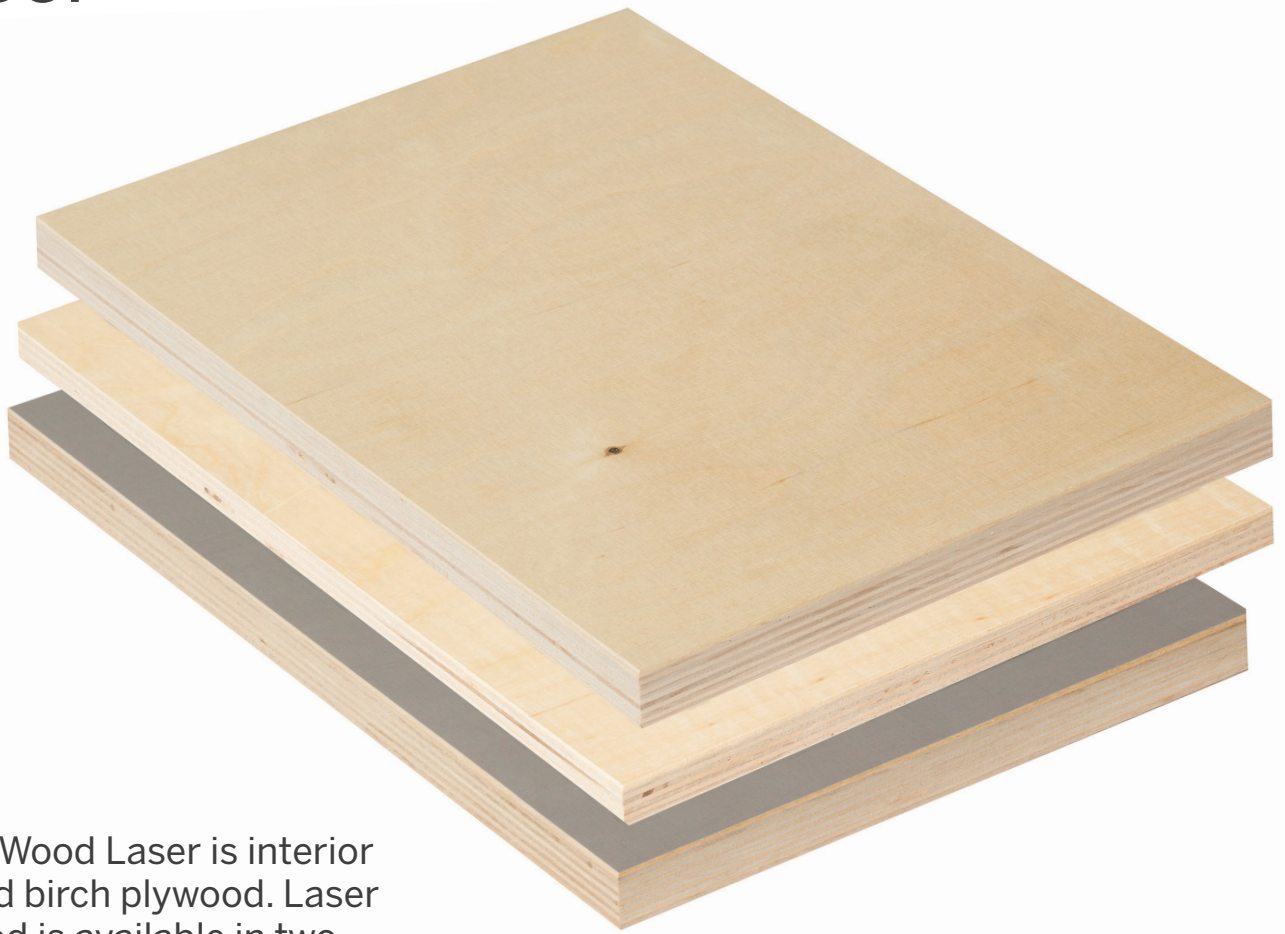
PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS				
	9	12	15	18	21
1,500 / 1,525 x 2,400 – 3,660					
1,200/1,220/1,250 x 2,850 – 3,660	65	50	40	35	30
1,500/1,525 x 1,500 – 2,135					
1,200/1,220/1,250 x 1,200 – 2,800	100	75	60	50	45
1,500/1,525 x 3,670 – 4,110					
1,860 x 1,860 – 4,110	50	35	30	25	20

Further information

- Metsä Wood Granit Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Transport brochure

Birch Ply

Laser



Metsä Wood Laser is interior bonded birch plywood. Laser plywood is available in two options: high quality uncoated, sanded plywood or plywood overlaid with a melamine film.

Applications

Metsä Wood Laser is specially developed for laser cutting applications and is mostly used as die cutting plates in the packaging industry. Laser plywood is suitable also for other indoor uses and for applications requiring a colourless glue line with a protective, easy maintenance film surface. Laser is not suitable for outdoor use, because the base plywood bonding is not resistant to weather.

Major advantages

- Easy to machine with laser cutting devices
- Colourless glueline
- Strong and rigid
- Excellent strength-to-weight ratio
- Dimensionally stable
- Easy to work with using conventional woodworking tools and fasteners
- Environmentally friendly
- Easy maintenance film surface

Base plywood

The base plywood of Metsä Wood Laser is made of cross-bonded 1.4 mm thick birch veneers bonded with melamine modified urea formaldehyde adhesive.

Surface grades and overlay

Metsä Wood Laser is available as sanded and uncoated product and as overlaid product with transparent or transparent grey melamine film on both sides.

Metsä Wood Laser uncoated:

Both surfaces are sanded. The grade of surface veneer is BB quality. Uncoated Laser surface grades follow the classification presented in standard EN 635. The uncoated panel surface can be treated with standard paints, lacquers, varnishes and protection treatments applicable on wood products. Confirm the compatibility of a surface treatment from the supplier.

Metsä Wood Laser overlaid:

A smooth melamine film is hot-pressed on both panel surfaces to enhance surface durability.

Surface properties

With colourless and transparent film, the colour of overlaid Metsä Wood Laser is similar to natural colour of the birch surface. The film surface and BB veneer grade is sufficient for technical applications, but not for visually demanding applications such as furniture. Laser plywood is also available with a transparent grey film.

The film surface is semi glossy, smooth, hard and slippery. It withstands abrasion, is moisture-resistant and can tolerate commonly used chemicals as well as diluted acids and alkalis. The Laser film surfaces are well suited for laser cutting.

Edges

Metsä Wood Laser product edges are not painted or otherwise sealed.

Panel sizes

	LENGTH (mm)	WIDTH (mm)					
		2,400	2,440	2,500	3,000	3,050	3,300
Laser	1,200*	■	■	■	■	■	■
	1,220*	■	■	■	■	■	■
	1,250*	■	■	■	■	■	■
	1,500*			■	■	■	■
	1,525*			■	■	■	■

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

■ = standard panel size

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
< 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

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
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3

* 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

Melamine modified urea formaldehyde adhesive is used in the production of interior bonded Metsä Wood Laser plywood. The melamine additive improves the moisture resistance of the glue line compared to that of a standard interior bonding. The gluing meets the requirements of the standard EN 314-2 / Class 1 (interior).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Laser falls far below the Class E1 requirement of ≤ 0.100 ppm. The formaldehyde emission of Metsä Wood Laser uncoated is approximately 0.034 ppm and Metsä Wood Laser overlaid is approximately 0.023 ppm.

Panel strength properties

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

Machining

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

Packing

Metsä Wood Laser 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
1,500 / 1,525 x 2,400-3,300	65	50	40	35	30
1,200 / 1,220 / 1,250 x 3,000-3,300					
1,500 / 1,525 x 1,500-2,135	100	75	60	50	45
1,200 / 1,220 / 1,250 x 1,200-2,700					

Panel handling instructions

As wood is a hygroscopic material, the relative humidity of surrounding conditions affects the moisture content of the plywood and therefore the dimensions and flatness of the panel.

Metsä Wood Laser panels should be conditioned properly to the moisture content of the end use application before final use.

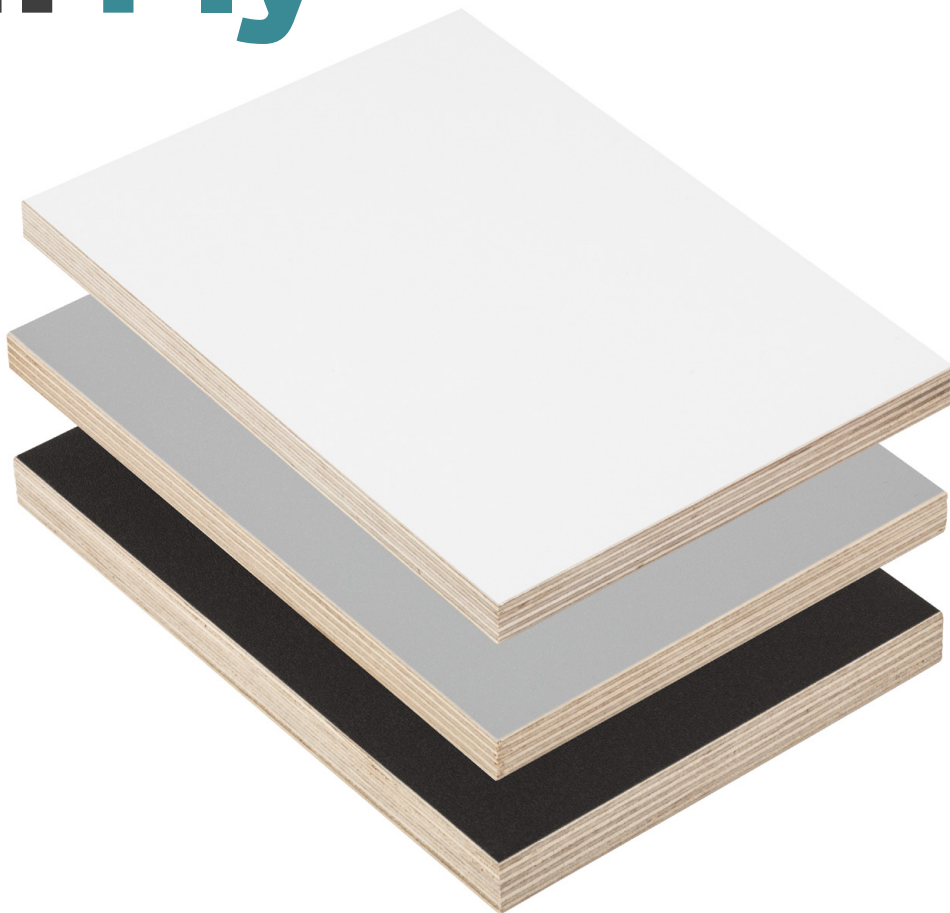
Further information

- Metsä Wood Laser Declaration of Performance (www.metsawood.com/dop)

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Flex



Metsä Wood Flex is a birch plywood panel overlaid with a coloured thermoplastic overlay. Flex is available in range of colours and ready finished surfaces. The combination of technical properties with high class surfaces makes Flex an excellent panel for various interior and transportation applications. Metsä Wood Flex is available in various sizes: standard, L and XL.

Applications

Metsä Wood Flex provides an easy ready finished surface solution.

- Transport industry: Transit and flight cases
- Building industry: Furniture, shop-, kitchen- and sanitary fittings

Major advantages

- High quality surfaces
- Excellent impact and crack resistance
- Easy to fix and cut
- Good wear resistance
- Easy to clean
- Good resistance against most chemicals
- Strong and rigid panel
- Excellent strength-to-weight ratio
- Dimensionally stable
- Environmentally friendly

Base plywood

The base plywood of Metsä Wood Flex 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.

Flex 02 overlay

The panel is overlaid with coloured, 0.2 mm thick lightly structured (miniburl) polypropylene overlay.

The overlay is bonded to plywood with water resistant glue. Metsä Wood Flex is available in range of colours: e.g. White02 (RAL 9016), Black02 (RAL 9004), Grey02 (RAL 7040). Flex 02 overlay is not recommended for exterior use.

Flex 06 overlay

The panel is overlaid with white 0.6 mm thick structured (burl) polypropylene overlay. FLEX 06 is available in colour White06 (RAL 9016).

Surface properties

The surface of the overlay is slightly structured to improve wear and scratch resistance. Overlay is elastic, tough and does not crack easily. The overlay is safe to use and it is free of chlorine, halogens, plasticizer, formaldehyde and heavy metals.

The surface is easy to clean with water and normal detergents. Strong acids, alkalis and e.g. acetone may cause visual changes on the surface.

Metsä Wood Flex plywood products have very high surface quality and the surface is susceptible to scratches due to its softer appearance, extra caution has to be practised in handling and storing the panels to prevent damage. Extreme moisture penetration may cause visible changes on the appearance of the product.

Technical properties of surface

- Taber value is approx 2,000 R depending on overlay*
- Colour stability 6-7 according to DIN 54404
- Colour change $\Delta E < 1$ according to ISO 4892-2 (600 h)
- Crack resistance EN13696 no cracks
- Impact resistance Class IC3 according to EN438-2

* Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The colour of the edge sealing is transparent, other colours are available on request. Even though edge sealing slows down the absorption of moisture into the panel, it does not eliminate it completely.

Panel sizes

		WIDTH (mm)					
	LENGTH (mm)	2,400	2,440	2,500	3,000	3,050	3,660
Flex 02	1,200*	■	■	■	■	■	
	1,220*	■	■	■	■	■	
	1,250*	■	■	■	■	■	
	1,500*	■	■	■	■	■	■
	1,525*	■	■	■	■	■	■
Flex 06	1,500*	■	■	■	■	■	■
	1,525*	■	■	■	■	■	■

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

■ = standard panel size
■ = available on request

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
< 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 PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3

* 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 overlay is bonded to plywood with weather-resistant adhesive (EN 204 class D4).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Birch 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 Birch is approximately 0.013 ppm. Thermoplastic overlay does not contain any formaldehyde.

Panel strength properties

Metsä Wood Flex strength and elasticity properties are identical with the Metsä Wood Birch standard plywood properties. The properties are specified according to standards EN 789 and EN 1058 and can be found in the Metsä Wood Birch Declaration of Performance (DoP). DoP documents can be downloaded from www.metsawood.com/dop.

Packing

Metsä Wood Flex 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
1,500 / 1,525 x 2,400-3,660	65	50	40	35	30	25
1,200 / 1,220 / 1,250 x 3,000-3,660						
1,500 / 1,525 x 1,500-2,135	100	75	60	50	45	40
1,200 / 1,220 / 1,250 x 1,200-2,750						

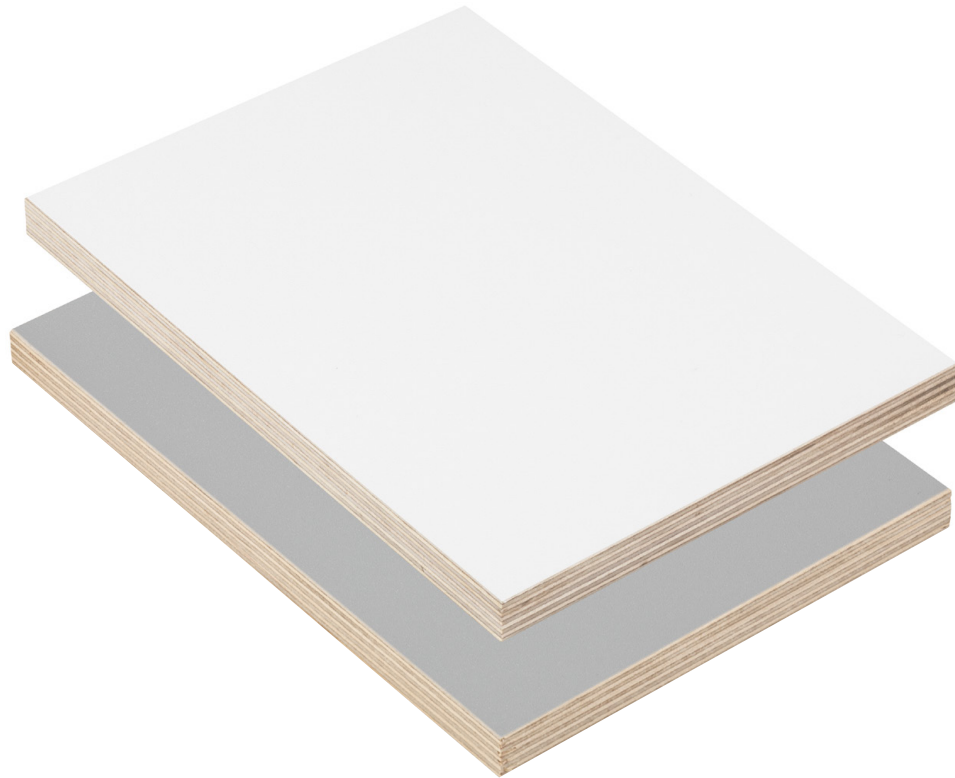
Further information

- Metsä Wood Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Flex Smooth Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Flex L



Metsä Wood Flex L is a birch plywood panel overlaid with a coloured thermoplastic overlay. Flex L is available in range of colours and ready finished surfaces. The combination of technical properties with high class surfaces makes Flex L an excellent panel for various interior and transportation applications.

Applications

Metsä Wood Flex provides an easy ready finished surface solution.

- **Transport industry:** Side walls for horse and box trailers, side walls for light and medium size trucks, doors bulk heads, van linings and transit and flight cases
- **Building industry:** Furniture, shop, kitchen and sanitary fittings, playground equipment, fencing and rebound walls

Major advantages

- High quality surfaces
- Excellent impact and crack resistance
- Easy to fix and cut
- Good wear resistance
- Easy to clean
- Good resistance against most chemicals
- Strong and rigid panel
- Excellent strength-to-weight ratio
- Dimensionally stable
- Environmentally friendly

Base plywood

The base plywood of Metsä Wood Flex L 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.

Flex 06 overlay

The panel is overlaid with white 0.6 mm thick structured (burl) polypropylene overlay. FLEX 06 is available in colour White06 (RAL 9016). Light grey06 (RAL 7001) overlay is available on request.

Surface properties

The surface of the overlay is slightly structured to improve wear and scratch resistance. Overlay is elastic, tough and does not crack easily. The overlay is safe to use and it is free of chlorine, halogens, plasticizer, formaldehyde and heavy metals.

The surface is easy to clean with water and normal detergents. Strong acids, alkalis and e.g. acetone may cause visual changes on the surface.

Metsä Wood Flex L plywood products have very high surface quality and the surface is susceptible to scratches due to its softer appearance, extra caution has to be practised in handling and storing the panels to prevent damage. Extreme moisture penetration may cause visible changes on the appearance of the product.

Technical properties of surface

- Taber value is approx 10,000 R*
- Colour stability 6-7 according to DIN 54404
- Colour change $\Delta E < 1.5$ according to ISO 4892-2 (600 h)
- Crack resistance EN13696 no cracks
- Impact resistance Class IC3 according to EN 438-2

* Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with acrylic edge sealing paint. The colour of the edge sealing is transparent, other colours are available on request. Even though edge sealing slows down the absorption of moisture into the panel, it does not eliminate it completely.

Panel sizes

Metsä Wood Flex L 06 is available in sizes:

- 1,850 mm x 4,100 mm
- 2,000 mm x 4,100 mm

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
< 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 PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
9	7	8.8	9.5	6.1
12	9	11.5	12.5	8.2
15	11	14.3	15.3	10.2
18	13	17.1	18.1	12.2
21	15	20.0	20.9	14.3
24	17	22.9	23.7	16.3

* 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 overlay is bonded to plywood with weather-resistant adhesive (EN 204 class D4).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Birch 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 Birch is approximately 0.013 ppm. Thermoplastic overlay does not contain any formaldehyde.

Panel strength properties

Metsä Wood Flex strength and elasticity properties are identical with the Metsä Wood Birch standard plywood properties. The properties are specified according to standards EN 789 and EN 1058 and can be found in the Metsä Wood Birch Declaration of Performance (DoP). DoP documents can be downloaded from www.metsawood.com/dop.

Packing

Metsä Wood Flex 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
1,850 / 2,000 x 4,100	50	35	30	25	20	15
1,850 / 2,000 x 1,850 / 2,050	100	70	60	50	40	30

Further information

- Metsä Wood Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Flex Smooth Product Data Sheet

Birch Ply

Flex Smooth



Metsä Wood Flex Smooth is a birch plywood overlaid with a smooth and glossy ABS based overlay. Flex Smooth has ready finished surface which is UV-resistant and therefore suitable for interior and exterior applications. The combination of superior surface with high technical properties makes Flex Smooth an excellent panel for various applications.

Applications

Metsä Wood Flex Smooth provides a larger size ready finished surface solution for the transport industry such as side walls for horse- and box trailers, light and medium size truck side walls, doors and bulk heads.

Major advantages

- High quality smooth and glossy surface
- Ideal surface for stickers and decals
- Excellent UV and weather resistance
- Easy to fix and cut
- Easy to clean
- Excellent strength-to-weight ratio
- Dimensionally stable
- Environmentally friendly

Base plywood

The base plywood of Metsä Wood Flex Smooth 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.

Overlay

The panel is overlaid with smooth and glossy ABS based overlay. The overlay has UV-additives to make it resistant against the sunlight.

The overlay is bonded to plywood with water resistant glue. Metsä Wood Flex Smooth is available in white colour. Flex Smooth surface is covered with blue protection foil in order to avoid damages during transportation and handling.

Surface properties

The surface of the overlay is smooth and glossy. Overlay is elastic and does not crack easily. It is also moisture and UV resistant. The overlay is safe to use and dispose. It is free of chlorine, halogens, plasticizer, formaldehyde and heavy metals.

The surface is easy to clean with water and normal detergents. Strong acids, alkalis and e.g. acetone may cause visual changes on the surface.

Metsä Wood Flex Smooth plywood products have very high surface quality and the surface is susceptible to scratches due to its softer appearance, extra caution has to be practised in handling and storing the panels to prevent damage. Extreme moisture penetration may cause visible changes on the appearance of the product.

Technical properties of surface

- Colour stability 2 according to EN ISO 3668
- Colour change ΔE < 1.5 according to ISO 4892-2 (600 h)

Edge sealing

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

Panel sizes

Metsä Wood Flex Smooth is available in sizes:

- 1,500 / 1,525 mm x 2,500 / 3,000 / 3,050 / 3,660 mm

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

Other sizes are available on request. Larger size scarf-jointed XL panels are also available by special order.

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

Thicknesses, structures and thickness tolerances

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS*

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
11	7	10.3	11.6	8.2
14	9	13.0	14.6	9.5
17	11	15.8	17.4	12.2

* 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 overlay is bonded to plywood with weather resistant adhesive (EN 204 class D4).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Birch 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 Birch is approximately 0.013 ppm. Thermoplastic overlay does not contain any formaldehyde.

Panel strength properties

Metsä Wood Flex Smooth strength and elasticity properties are identical with the Metsä Wood Birch standard plywood properties. The properties are specified according to standards EN 789 and EN 1058 and can be found in the Metsä Wood Birch Declaration of Performance (DoP). DoP documents can be downloaded from www.metsawood.com/dop.

Machining

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

Packing

Metsä Wood Flex Smooth panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS		
	11	14	17
1,500 / 1,525 x 2,400-3,660	50	40	35
1,500 / 1,525 x 1,500-2,135	75	60	50
1,800/1,900 x 2,400-3,050	Packet sizes agreed case by case		
6,000 x 1,800/1,900	Packet sizes agreed case by case		

Further information

- Metsä Wood Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Flex Product Data Sheet

Birch Ply

Flex XL



Metsä Wood Flex XL is a larger size birch plywood panel overlaid with a coloured thermoplastic overlay. Flex XL is available in range of colours and ready finished surfaces which are UV-resistant. The combination of technical properties with high class surfaces makes Flex XL an excellent panel for various applications. XL panels enable larger one piece components.

Applications

Metsä Wood Flex XL provides a larger size easy ready finished surface solution.

- Transport industry: Side walls for horse and box trailers, side walls for light and medium size trucks, doors bulk heads, van linings and transit and flight cases
- Building industry: Furniture, shop, kitchen and sanitary fittings, playground equipment, fencing and rebound walls

Major advantages

- High quality surfaces
- Excellent impact and crack resistance
- Good weather resistance
- Easy to fix and cut
- Excellent wear resistance
- Easy to clean
- Good resistance against most chemicals
- Strong and rigid panel
- Excellent strength-to-weight ratio
- Dimensionally stable
- Environmentally friendly

Base plywood

The base plywood of Metsä Wood Flex XL 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. The core panel of the large size Flex XL is scarf-jointed from standard size birch plywood panels using weather resistant melamine or resorcinol adhesive.

Flex 06 overlay

The panel is overlaid with coloured, 0.6 mm thick structured (burl) polypropylene overlay.

The overlay is bonded to plywood with water resistant adhesive. Metsä Wood Flex XL is available in colour White06 (RAL 9016).

Surface properties

The surface of the overlay is structured to improve wear and scratch resistance. Overlay is elastic, tough and does not crack easily. It is also moisture and UV resistant. The overlay is safe to use and it is free of chlorine, halogens, plasticizer, formaldehyde and heavy metals.

The surface is easy to clean with water and normal detergents. Strong acids, alkalis and e.g. acetone may cause visual changes on the surface.

Metsä Wood Flex XL plywood products have very high surface quality and the surface is susceptible to scratches due to its softer appearance, extra caution has to be practised in handling and storing the panels to prevent damage. Extreme moisture penetration may cause visible changes on the appearance of the product.

Technical properties of surface

- Taber value is approx 10,000 R*
- Colour stability 6-7 according to DIN 54404
- Colour change $\Delta E < 1.5$ according to ISO 4892-2 (600 h)
- Crack resistance EN13696 no cracks
- Impact resistance Class IC3 according to EN 438-2

* Abrasion resistance is tested according to EN 438-2 / DIN 53799

Edge sealing

Panel edges are sealed against moisture absorption with edge sealing paint. The standard colour of the edge sealing is transparent. Even though edge sealing slows down the absorption of moisture into the panel, it does not eliminate it completely.

Panel sizes

Metsä Wood Flex XL 06 is available in sizes:

- XL 3,660-6,000 mm x 1,500 / 1,525 mm
- XL 6,000 mm x 1,800 / 1,900 mm
- XL 6,000 mm x 2,000 / 2,150 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
< 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

THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS*

NOMINAL THICKNESS	NUMBER OF PLIES	THICKNESS TOLERANCE		WEIGHT
(mm)	(pcs)	min. (mm)	max. (mm)	kg/m ²
12	9	11.5	13.1	8.7
15	11	14.3	15.9	10.7
18	13	17.1	18.7	12.7
21	15	20.0	21.5	14.8
24	17	22.9	24.3	16.8
27	19	25.2	27.4	18.9
30	21	28.1	30.5	20.9

* 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. The overlay is bonded to plywood with weather resistant adhesive (EN 204 class D4).

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood Birch 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 Birch is approximately 0.013 ppm. Thermoplastic overlay does not contain any formaldehyde.

Panel strength properties

Due to the scarf jointed core plywood, the strength values of Metsä Wood Flex XL 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.

MECHANICAL PROPERTIES

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

Machining

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

Packing

Metsä Wood Flex XL panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS						
	12	15	18	21	24	27	30
1,500 / 1,525 x 2,400-3,660	50	40	35	30	25	25	20
1,500 / 1,525 x 1,500-2,135	75	60	50	45	40	35	30
1,800/1,900 x 2,400-3,050	Packet sizes agreed case by case						
3,100-6,000 x 1,800/1,900	Packet sizes agreed case by case						

Further information

- Metsä Wood Flex Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Sonex Light



Metsä Wood Sonex Light is a birch plywood sandwich panel with good sound reduction properties. Its main end uses are in transportation industry like buses and trains. Sonex Light panels are composite structures made out of plywood and sound reduction material.

Applications

Metsä Wood Sonex Light is an ideal solution for applications which require good sound insulation, high strength and elasticity properties. Sonex Light panel is perfectly suited for light structures where low weight is a priority.

Benefits in transport uses are:

- Good strength / weight – ratio and high durability
- Less fuel consumption – Reduction of CO₂ emissions of a vehicle

Sonex Light applications:

- Transport industry: Bus and train walls and floors to reduce noise levels in the passenger cabin areas.
- Building applications: Partition walls requiring high acoustic insulation

Major advantages

- **Good sound reduction properties**
- **Excellent strength-to-weight ratio**
- **Dimensionally stable**
- **Strong and rigid**
- **Easy to machine and fasten using conventional woodworking tools and fasteners**
- **Available with various technically and / or visually high quality overlays**
- **Good chemical resistance and durability of overlaid products**
- **Environmentally friendly**

Base plywood

Metsä Wood Sonex Light is a composite panel consisting of Metsä Wood birch plywood and Amorim Cork composite sound reduction material. The base plywood of Metsä Wood Sonex Light 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.

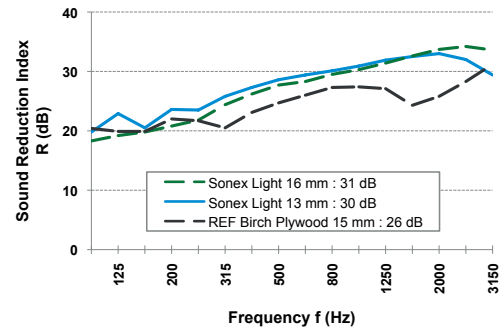
Overlay and surface properties

Metsä Wood Sonex Light standard surfaces are uncoated. Surfaces are also available with variety of technically or visually high quality overlays. Generally all standard birch plywood overlays e.g. thermoset or thermoplastic overlays are available.

In addition Sonex Light is also available with Phoenix overlay which significantly enhances the fire performance of the panel. Surface properties are dependent on overlay type. For more information on the overlay selection and the surface properties of a single overlay type, please contact Metsä Wood Plywood sales or see particular Product Data Sheet (e.g. Metsä Wood Form, Metsä Wood Phoenix).

Sound insulation

Sound reduction indexes of the Metsä Wood Sonex Light panels



NOMINAL THICKNESS (mm)	SOUND REDUCTION INDEX* Rw (dB)
13	30
16	31
19	31

* The sound reduction index R was measured in accordance with EN ISO 10140-2:2010 and the weighted sound reduction index Rw was determined in accordance with EN ISO 717-1:1996.

Special structures with higher sound insulation properties are available on request.

Edges

In standard Metsä Wood Sonex Light products the edges are not painted or otherwise sealed. Edge protection with acrylic edge sealing paint is available for overlaid panels on request.

Panel sizes

Metsä Wood Sonex Light is available in sizes:

- 1,250 mm x 2,500 mm
- 1,525 mm x 3,050 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
< 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, THICKNESS TOLERANCES AND WEIGHT OF THE PANELS *

NOMINAL THICKNESS	THICKNESS TOLERANCE*		WEIGHT**
(mm)	min. (mm)	max. (mm)	kg/m ²
13	12	14	9.3
16	15	17	10.9
19	18	20	13.2

* Moisture content of the product affects its dimensions

** Weights are given at relative humidity of RH 65 %.

Special structures and thicknesses are available on request. Customised tolerances are possible but must be agreed on separately.

Bonding classes

Metsä Wood Sonex Light base 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).

Fire classification

The fire performance of Metsä Wood Sonex Light has been tested according to several standards and directives.

- UN/ECE Regulation No. 118, (vertical and horizontal use)
- FMVSS 571.302
- EN 45545-2 - R10: HL1 to HL3 (Sonex Light Phoenix)

Other approvals for railway industry are listed in the Metsä Wood Phoenix Product Data Sheet.

Formaldehyde emissions

Determined according to EN ISO 12460-3, the formaldehyde emitted by Metsä Wood Sonex Light falls far below the Class E1 requirement of ≤ 3.5 mg/(m²*h). The formaldehyde emission of Metsä Wood Sonex Light is approximately 0.7 mg/(m²*h).

Panel strength properties

MECHANICAL PROPERTIES

THICKNESS*	CHARACTERISTIC BENDING ** Strength (N/mm ²)		MEAN MODULUS OF ELASTICITY ** (N/mm ²)	
(mm)	II	I	II	I
13	37,8	31,0	9,440	6,487
16	33,9	30,2	8,977	6,694
19	36,3	31,5	9,070	6,968

* Moisture content 12 %

** Properties determined according to EN 789 standard

Machining

Metsä Wood Sonex Light plywood panels can be edge machined and predrilled according to customer specification on request.

Packing

Metsä Wood Sonex Light panels are packed in moisture-resistant plastic wrapping.

PACKING QUANTITIES

PANEL SIZE (mm)	NUMBER OF PANELS PER PALLET BY THICKNESS		
	13	16	19
1,250 x 2,500	55	50	40
1,525 x 3,050	45	35	35

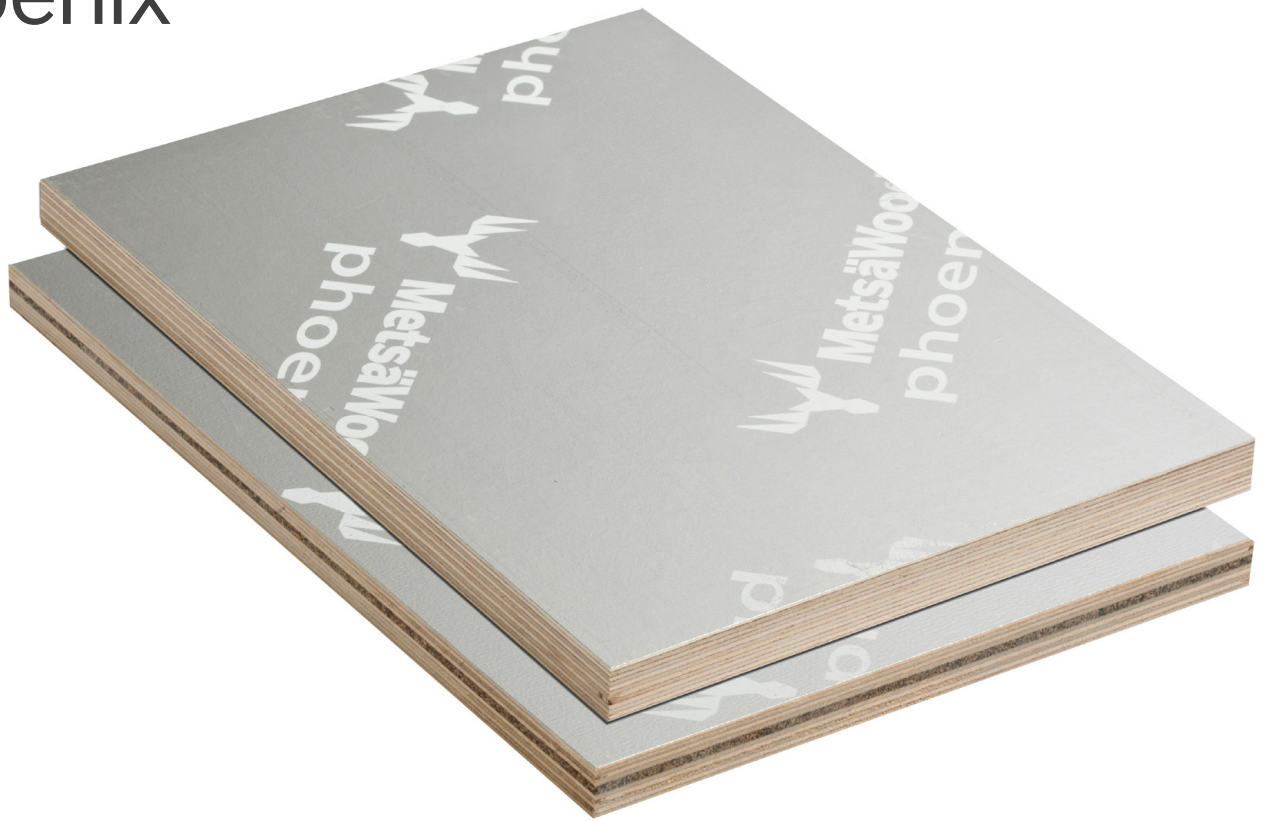
Further information

- Metsä Wood Phoenix Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.

Birch Ply

Phoenix



Metsä Wood Phoenix plywood products provide enhanced fire performance for uses in transport industry. The product range consists of birch plywood and Sonex Light sound-absorbing sandwich panels overlaid with a special aluminium overlay. Phoenix products meet the requirements of many demanding end use applications.

Applications

The combination of fire performance, sound insulation properties and good strength-to-weight ratio make Phoenix an excellent choice for various applications in transport industry, like railway wagons and bus floors.

Major advantages

- Enhanced fire performance
- Good sound reduction properties with Phoenix Sonex Light
- Versatile uses – surface can be painted or overlaid
- Strong and rigid
- Excellent strength-to-weight ratio
- Dimensionally stable
- Air tight surface
- Environmentally friendly
- No endangered wood species
- No hazardous chemicals
- PEFC certified

Base plywood

The base plywood of Metsä Wood Phoenix Birch 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.

The base plywood of Metsä Wood Phoenix Sonex Light is Metsä Wood Sonex Light, which is a composite panel consisting of Metsä Wood birch plywood and Amorim Cork composite sound reduction material.

Overlay and surface properties

Metsä Wood Phoenix has a special aluminum overlay. The primed aluminum overlay allows the surface to be painted or overlaid in the customers' own process according to the end use requirements. The compatibility of a surface coating or an adhesive should be confirmed from the coating supplier. Additionally a test coating is recommended prior to use.

Panel edges

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

Fire classification

The fire performance of Metsä Wood Phoenix products has been tested according to several standards and directives:

	PHOENIX BIRCH	PHOENIX SONEX LIGHT
EN 45545-2: 2016: R10	HL1 to HL3	HL1 to HL3
EN 45545-2: 2016: R1, R7	HL1 to HL3	–
UN/ECE Regulation No. 118 (vertical and horizontal use)	meets requirements	meets requirements
EN 13501-1: 2007	B-s1,d0	–

Sound insulation with sandwich panels

Metsä Wood Phoenix Sonex Light has good sound reduction properties, Rw index 30-31 dB, depending on the panel structure.

For more information please see Metsä Wood Sonex Light Product Data Sheet.

Panel sizes

	LENGTH (mm)	WIDTH (mm)		
		2,440	2,500	3,050
Phoenix	1,220*	■	■	■
	1,250*	■	■	■
	1,525*	■	■	■

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

■ = standard panel size

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
< 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

Bonding classes

Metsä Wood Phoenix base 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 aluminium overlay is bonded with a weather-resistant adhesive (EN 204 class D4).

Thicknesses, structures and thickness tolerances

THICKNESSES, THICKNESS TOLERANCES AND WEIGHT OF THE EXAMPLE PANELS *

BASE plywood structure***	THICKNESS (mm)	THICKNESS TOLERANCE*		WEIGHT**
		min. (mm)	max. (mm)	kg/m ²
Phoenix Birch Plywood	12	11.5	12.5	8.2
Phoenix Birch Plywood	15	14.3	15.3	10.2
Phoenix Birch Plywood	18	17.1	18.1	12.2
Phoenix Birch Plywood	21	20	20.9	14.3
Phoenix Sonex Light	13	12	14	9.3
Phoenix Sonex Light	16	15	17	10.9
Phoenix Sonex Light	19	18	20	13.2

* Moisture content of the product affects its dimensions.

** Weights given in relative humidity RH 65 %.

*** Phoenix panels are also available with spruce plywood core. For more information please see Metsä Wood Spruce Phoenix Product Data Sheet.

Special structures and thicknesses are available on request. Customised tolerances are possible but must be agreed on separately.

Formaldehyde emissions

Determined according to EN ISO 12460-3, the formaldehyde emitted by Metsä Wood Phoenix products falls far below the Class E1 requirement of ≤ 3.5 mg/(m²*h). The formaldehyde emission of Metsä Wood Phoenix Birch is approximately 0.1 mg/(m²*h).

Panel strength properties

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

Metsä Wood Phoenix Sonex Light strength and elasticity properties are identical with the Metsä Wood Sonex Light properties. Phoenix Sonex Light strength and elasticity properties can be found in the Metsä Wood Sonex Light Product Data Sheet.

Packing

Metsä Wood Phoenix panels are packed in moisture-resistant plastic wrapping. Packing quantity information is available on Metsä Wood Sonex Light and Birch Product Data Sheets.

Further information

- Metsä Wood Phoenix Birch Declaration of Performance (www.metsawood.com/dop)
- Metsä Wood Sonex Light Product Data Sheet
- Metsä Wood Birch Product Data Sheet

This leaflet is provided for information purposes only and no liability or responsibility of any kind is accepted by Metsä Wood or their representatives, although Metsä Wood has used reasonable efforts to verify the accuracy of any advice, recommendation or information. Metsä Wood reserves the right to make alterations to its products, product information and product range without prior notice.