

# 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 the formwork panel of choice for smooth surfaced concrete elements. It can also be used as a multi-purpose, maintenance-free sheathing panel for various other uses. Metsä Wood Form is available in various 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 exterior building applications
- Other applications: Packaging applications, sport arenas and equipment

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### MAJOR ADVANTAGES

- Smooth durable overlay
- Light and 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, which is made of cross-bonded 1.4 mm thick birch veneers and 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/m<sup>2</sup> is normally used. With Form L minimum film weight is 220g/m<sup>2</sup>. Thicker overlays are available by order. Standard film colours are dark brown, light brown, yellow and black. Other colours are available by order. The phenol film is not UV resistant and the colour may change exposed to sunlight over prolonged periods.

### SURFACE PROPERTIES

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 surface is easy to clean with water or steam. Moisture absorption is minimal.



### ABRASION RESISTANCE OF METSÄ WOOD FORM (VALUES ARE INDICATIVE AND VALID FOR NEW UNUSED PANELS)

|      | OVERLAY WEIGHT         | TABER REVOLUTIONS* |
|------|------------------------|--------------------|
| Form | 120 g / m <sup>2</sup> | 350                |
| Form | 220 g / m <sup>2</sup> | 700                |
| Form | 440 g / m <sup>2</sup> | 1500               |

\* 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. Even though edge sealing slows down the absorption of moisture into the wood, it does not eliminate it completely.

### PANEL SIZES

Metsä Wood Form is available in sizes:

- 1200 / 1220 / 1250 mm x 2400 / 2440 / 2500 / 3000 / 3050 / 3660 mm
- 1500 / 1525 mm x 2500 / 3000 / 3050 / 3660 / 4110 mm

Metsä Wood Form L is available in sizes:

- 2020 x 4110 mm
- 1870 x 4110 mm
- 1870 x 1870 mm, 2020 x 2020 mm

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

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

### THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES

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

#### THICKNESSES, STRUCTURES AND THICKNESS TOLERANCES OF THE PANELS \*

| NOMINAL THICKNESS<br>(mm) | NUMBER OF PLYS<br>(pcs) | THICKNESS TOLERANCE |           | WEIGHT<br>kg/m <sup>2</sup> |
|---------------------------|-------------------------|---------------------|-----------|-----------------------------|
|                           |                         | min. (mm)           | max. (mm) |                             |
| 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/m<sup>3</sup> (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 (WBP, BFU, AW, exterior).

The gluing meets the requirements of the following international standards:

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

### FORMALDEHYDE EMISSIONS

Determined according to EN 717-1, the formaldehyde emitted by Metsä Wood 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](http://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 special request.

### PACKING

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

### PACKING QUANTITIES

| PANEL SIZE mm   | NUMBER OF PANELS PER PALLET BY THICKNESS |     |    |    |    |    |    |    |    |  |
|---|--|-----|----|----|----|----|----|----|----|--|
|   | 6.5                                      | 9   | 12 | 15 | 18 | 21 | 24 | 27 | 30 |  |
| 1500 / 1525 x 2400 – 3660<br>1200/1220/1250 x 2850 – 3660 | 90                                       | 65  | 50 | 40 | 35 | 30 | 25 | 25 | 20 |  |
| 1500/1525 x 1500 – 2135<br>1200/1220/1250 x 1200 – 2800   | 140                                      | 100 | 75 | 60 | 50 | 45 | 40 | 35 | 30 |  |
| 1500/1525 x 3670 – 4110<br>1870/2020 x 1870 – 4110        | 70                                       | 50  | 35 | 30 | 25 | 20 | 15 | 15 | 15 |  |
| 1870 / 2020 x 1870 / 2020                                 | 140                                      | 100 | 70 | 60 | 50 | 40 | 30 | 30 | 30 |  |

### FURTHER INFORMATION

- Metsä Wood Form Declaration of Performance ([www.metsawood.com/dop](http://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

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