

# 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<br>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 |
| 1,200*         | ■          | ■     | ■     | ■     | ■     | ■     |
| 1,220*         | ■          | ■     | ■     | ■     | ■     | ■     |
| Integra 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 (mm) | NUMBER OF PLIES (pcs) | THICKNESS TOLERANCE |           | WEIGHT (kg/m <sup>2</sup> ) |
|------------------------|-----------------------|---------------------|-----------|-----------------------------|
|                        |                       | min. (mm)           | max. (mm) |                             |
| 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/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

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### 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  $\leq 0.100$  ppm and fulfils also the most stringent requirements in the world ( $\leq 0.030$  ppm). The formaldehyde emission of Metsä Wood Integra is approximately 0.017 ppm.

### Mechanical 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](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.

### Packaging

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<br>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<br>1,200–2,750 | 100                                      | 75 | 60 | 50 | 45 | 40 | 35 | 30 |

### Further information

- Metsä Wood Integra 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 Plywood for transport industry brochure

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