

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.

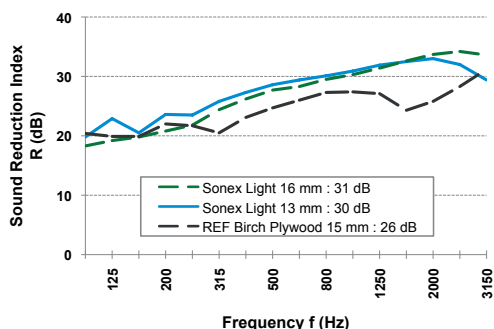
Overlay and surface properties

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* R_w (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 R_w 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 (mm)	THICKNESS TOLERANCE*		WEIGHT** (kg/m ²)
	min. (mm)	max. (mm)	
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 $\leq 3.5 \text{ mg}/(\text{m}^2 \cdot \text{h})$. The formaldehyde emission of Metsä Wood Sonex Light is approximately $0.7 \text{ mg}/(\text{m}^2 \cdot \text{h})$.

Panel strength properties

MECHANICAL PROPERTIES

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

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