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
- Light and 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 Sonex Light 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.

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

<table>
<thead>
<tr>
<th>Frequency f (Hz)</th>
<th>Sonex Light 16 mm</th>
<th>31 dB</th>
<th>Sonex Light 13 mm</th>
<th>30 dB</th>
<th>REF Birch Plywood 15 mm</th>
<th>26 dB</th>
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</thead>
<tbody>
<tr>
<td>125</td>
<td>11.0</td>
<td></td>
<td>12.0</td>
<td></td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>12.0</td>
<td></td>
<td>13.0</td>
<td></td>
<td>9.0</td>
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<td>315</td>
<td>13.0</td>
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<td>14.0</td>
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<td>10.0</td>
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</tr>
<tr>
<td>500</td>
<td>14.0</td>
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<td>15.0</td>
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<td>11.0</td>
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</tr>
<tr>
<td>800</td>
<td>15.0</td>
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<td>16.0</td>
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<td>12.0</td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>16.0</td>
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<td>17.0</td>
<td></td>
<td>13.0</td>
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</tr>
<tr>
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<td>18.0</td>
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<td>3150</td>
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<td></td>
<td>19.0</td>
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<td>15.0</td>
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</table>

Sound Reduction Index R (dB)
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**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 special request.

**PANEL SIZES**
Metsä Wood Sonex Light is available in sizes:
- 1250 mm x 2500 mm
- 1525 mm x 3050 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 STRENGTH PROPERTIES**

<table>
<thead>
<tr>
<th>NOMINAL THICKNESS (mm)</th>
<th>THICKNESS TOLERANCE*</th>
<th>WEIGHT**</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>18</td>
<td>20</td>
</tr>
</tbody>
</table>

* Moisture content 12 %
** 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 (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

Sonex Light sandwich panel meets the standard EN 314-2 requirements.

**FIRE CLASSIFICATION**
The fire performance of Metsä Wood Sonex Light has been tested according to several standards and directives.
- Approval directive 95/28/EC
- Approval FMVSS 302
- DIN 5510-2 – S3, SRT2, ST2

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

**FORMALDEHYDE EMISSIONS**
Determined according to EN 717-2, 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).

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

**PACKING QUANTITIES**

<table>
<thead>
<tr>
<th>PANEL SIZE</th>
<th>NUMBER OF PANELS PER PALLET BY THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1250 x 2500</td>
<td>55</td>
</tr>
<tr>
<td>1525 x 3050</td>
<td>45</td>
</tr>
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</table>

**FURTHER INFORMATION**
- Metsä Wood Phoenix Product Data Sheet