LOHAS AUSTRALIA

Wood Wool Cement Board

www.lohasau.com
DENSITY AND STRENGTH

<table>
<thead>
<tr>
<th>Thickness (cm)</th>
<th>Weight (Kg/m²)</th>
<th>Density (Kg/m³)</th>
<th>Flexure Strength (N/mm²)</th>
<th>Bending Strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>8.5</td>
<td>570</td>
<td>1.7</td>
<td>0.2</td>
</tr>
<tr>
<td>2.5</td>
<td>11.5</td>
<td>460</td>
<td>1.0</td>
<td>0.15</td>
</tr>
<tr>
<td>5.0</td>
<td>19.5</td>
<td>390</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td>28.0</td>
<td>375</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

DENSITY AND THERMAL CONDUCTIVITY COMPARATION

<table>
<thead>
<tr>
<th>Materials</th>
<th>Density (Kg/m³)</th>
<th>Thermal Conductivity (W/M K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Steel</td>
<td>7850</td>
<td>60</td>
</tr>
<tr>
<td>2. Concrete</td>
<td>2400</td>
<td>2.1</td>
</tr>
<tr>
<td>3. Cement Filling</td>
<td>1890</td>
<td>0.88</td>
</tr>
<tr>
<td>4. Brick</td>
<td>1500</td>
<td>0.65</td>
</tr>
<tr>
<td>5. Prefab Cement Block</td>
<td>1800</td>
<td>1.0</td>
</tr>
<tr>
<td>6. Wood</td>
<td>800</td>
<td>0.2</td>
</tr>
<tr>
<td>7. Rubber</td>
<td>930</td>
<td>0.16</td>
</tr>
<tr>
<td>8. Rockwool</td>
<td>48</td>
<td>0.035</td>
</tr>
<tr>
<td>9. Lohas Board</td>
<td>450</td>
<td>0.06</td>
</tr>
</tbody>
</table>

NOTE

- Conveniences of Light Density materials are
  1. Decreased transportation and loading fee
  2. Smaller post, beam and foundation size
  3. Smaller lateral earthquake force given to building
  4. Quicker construction process because of the large size of the boards

- Lower Thermal Conductivity value represents better insulation quality W

INSULATION VALUE

Insulation value of lohas board is:
0.06 K.cal/m².h.°C - 0.07 K.cal/m².h.°C
WATER ABSORPTION COEFFICIENT

MATERIALS
1 - Brick
2 - Hollow brick
3 - Limestone beick
4 - Concrete store
5 - Gypsum
6 - Lohas Board
7 - Cement coating
8 - Plastic coating

NOTE
The lower the value of Water Absorption Coefficient the material’s resistance toward humidity will be higher.

SOUND ABSORPTION
Sound Absorption Range for Lohas board t.50mm

Lohas board 50 mm thick 36-40 dB
Lohas board 50 mm thick with air barrier 53-57 dB
Lohas board 50 mm thick with 129 mm concrete base 53-56 dB

NOISE REDUCTION COEFFICIENT (NRC)

<table>
<thead>
<tr>
<th>NO</th>
<th>THICKNESS</th>
<th>NRC VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15 mm</td>
<td>0.38</td>
</tr>
<tr>
<td>2.</td>
<td>25 mm</td>
<td>0.43</td>
</tr>
<tr>
<td>3.</td>
<td>30 mm</td>
<td>0.65</td>
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</tbody>
</table>

NOTE
Higher NRC value represents the high value of material’s noise absorption rate.
Made from wood fiber, formed and lined along wood filament, with 3 - 3 mm width, resulting in raw fiber pattern. With Portland Cement as adhesive substance. Natural cement colored (gray).

**Lohas noard standard size**

<table>
<thead>
<tr>
<th>Size (cm)</th>
<th>Pattern</th>
<th>Adhesive Substance</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thickness</td>
<td>Width</td>
<td>Length</td>
</tr>
<tr>
<td>1.5</td>
<td>60</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>2.5</td>
<td>60</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>5.0</td>
<td>60</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>7.5</td>
<td>60</td>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>1.5</td>
<td>25</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>2.5</td>
<td>25</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

* Lohas Board may accept any custom size order upon request.

**Projects**

- Spray-painted Lohas Board being used as office partition
- Lohas Board with cement plaster coating being used in instant houses
- Lohas Board as well cladding material covered with carpets, utilized at rooms which required acoustic treatments. For example home theatres and auditorium.
Made from fine wood fiber, formed and lined along wood filament, with 500 mm length and 1 - 2 mm width
With white cement as adhesive substance
Natural patterned

Lohas Insulation Standard Size

<table>
<thead>
<tr>
<th>Size (cm)</th>
<th>Pattern</th>
<th>Adhesive Substance</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Width Length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>60 240</td>
<td>Fine Fiber</td>
<td>White Cement</td>
</tr>
<tr>
<td>2.5</td>
<td>60 240</td>
<td></td>
<td>Heat Insulation for ceiling and walls</td>
</tr>
<tr>
<td>1.5</td>
<td>25 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>25 60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Projects

Lohas insulation used as ceiling, blocking the heat from infiltrating into the room

Lohas insulation as sport hall ceiling
Made from fine wooden fiber, formed and lined along the wood's filament. These wood wool had 500 mm length and 1 - 2 mm width. Using white cement as bonding substance. Available in 4 color options: (Ivory, Light Green, Green, and Brown)

**Lohas Acoustic Standards**

<table>
<thead>
<tr>
<th>Size (cm)</th>
<th>Pattern</th>
<th>Adhesive Substance</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Width</td>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>60</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>60</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>25</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>25</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

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**Projects**

Exposed Lohas Acoustic serves as acoustic treatment, and also for decorative purpose.

Lohas Acoustic covered in a radio station.

**Colors**

The differential colour (Black or White or any other unshown colour) may apply upon customer favour which comes either glossy or matte surface finish.
Lohas Acoustic installed at the ceiling of a reading room
Lohas Acoustic utilized in a campus auditorium's ceiling
Studio music maestro
Lohas insulation as the exposed ceiling of a convention hall
Lohas Acoustic as wall cover and an acoustic treatment of music room
Lohas Insulation combined with gypsum ceiling and wooden border, as decorative treatment in an office room
Lohas Board covered in carpets as an acoustic treatment in auditorium
Lohas Board with spray paint finishes, applied in the cafe interior
Lohas insulation in the ceiling as heat-absorber, located in the school gym room
Designer pattern
WOOD WOOL CEMENT BOARD

is the mixture between high quality wood fiber and cement. This combination results in producing flat-surfaced board with natural fiber pattern, in varieties of thickness.

TYPES

3 types of yumen board are:

- **LOHAS BOARD** for permanent walls, room partition, ceiling, etc
- **LOHAS INSULATION** for ceiling, thermal insulation, etc
- **LOHAS ACOUSTIC** for acoustical treatments (sound barrier/absorber), ceiling, wall covering, etc

APPLICATIONS

- Permanent wall
- Sound barrier/absorber
- Room partition
- Heat insulation
- Ceiling
- Wall covering
ADVANTAGES

- Harmless for health
- Water/dampness resistant
- Light-weight
- Incombustible
- Will not emitting any harmful gases if combusted
- Neutral substance
- Does not contain toxic substances
- Does not harbor or encourage vermin and fungus
- Good thermal insulation
- Good acoustical insulation

CONSTRUCTION

Lohas Board could be applied into these following constructions

- Wood frame
- Concrete frame
- Metal frame
- Light metal frame
- Alumunium frame

FINISHING

Lohas board could be applied into these following finishes

- Natural (cement-colored)
- Paint
- Varnish
- Cement coating
- Ceramic coating
- Stone coating
- Wood coating
- Wallpaper/ fabric coating