Commercial Grade Honeycomb
Aluminum Honeycomb

Description

Alcore’s most economical aluminum honeycomb, Commercial Grade Honeycomb is a lightweight structural core material that offers excellent strength and corrosion resistance to meet a wide variety of applications.

An advanced protection system is applied to the aluminum foil prior to processing into honeycomb, extending its service life in hot, wet and corrosive environments. Alcore produces three grades of Commercial Grade Honeycomb:

Commercial Grade Honeycomb, our standard grade.

Commercial Grade Honeycomb, aluminum honeycomb is a high performance, low cost core material, perfect for architectural, transportation, marine and other commercial/industrial applications.

Applications

- Architectural and building panels
- Industrial equipment
- Marine panels
- Tooling board
- Railcar floors, walls
- Airflow straightness
- Automotive, trucking
- Energy absorption
- Panels, doors, covers, shelving

Features

- Moisture resistant
- Corrosion resistant
- Service temperature up to 350° F/177° C
- High strength-to-weight ratio
- Fire resistant
- Fungus resistant
- Excellent energy absorption
- Machinable
- Low cost/excellent value

Availability

- Unexpanded blocks
- Unexpanded slices
- Expanded sheets
- Pieces cut to size

Commercial Grade Honeycomb, aluminum honeycomb is available with cell perforations to facilitate venting. Custom dimensions, cell sizes, tolerances and mechanical properties are available.
How to Order

When ordering, please specify Commercial Grade Honeycomb using the following format:

Example: Commercial Grade Honeycomb - 3.5 - 1/4 - N - E, where

<table>
<thead>
<tr>
<th>Product</th>
<th>Density</th>
<th>Cell Size</th>
<th>Perforated or Non-Perforated</th>
<th>Expanded or Unexpanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Grade Honeycomb</td>
<td>3.5</td>
<td>1/4</td>
<td>P or N</td>
<td>E or U</td>
</tr>
</tbody>
</table>

Available Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Maximum</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
</tr>
<tr>
<td>Ribbon (L)</td>
<td>48</td>
<td>1219</td>
<td>100</td>
</tr>
<tr>
<td>Transverse (W)</td>
<td>96</td>
<td>2438</td>
<td>300</td>
</tr>
<tr>
<td>Thickness (T)</td>
<td>35</td>
<td>889</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>up to 4 inches (102mm) T</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>over 4 inches (102mm) T</td>
</tr>
<tr>
<td>Density</td>
<td>see mechanical characteristics chart</td>
<td>±15%</td>
<td></td>
</tr>
<tr>
<td>Cell Size</td>
<td>see mechanical characteristics chart</td>
<td>±15%</td>
<td></td>
</tr>
</tbody>
</table>

Commercial Grade Honeycomb Mechanical Characteristics (Typical values at 75° F/23° C)

<table>
<thead>
<tr>
<th>Density Cell Size</th>
<th>Bare Compressive Strength</th>
<th>Crush Strength</th>
<th>Shear Strength</th>
<th>Shear Modulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>lbs/ft³ - inches</td>
<td>psi</td>
<td>psi MPa</td>
<td>psi MPa</td>
<td>psi ksi</td>
</tr>
<tr>
<td>5.2 - 1/4</td>
<td>640</td>
<td>4.41</td>
<td>250</td>
<td>1.73</td>
</tr>
<tr>
<td>3.6 - 3/8</td>
<td>350</td>
<td>2.41</td>
<td>130</td>
<td>0.90</td>
</tr>
<tr>
<td>2.6 - 1/2</td>
<td>195</td>
<td>1.34</td>
<td>75</td>
<td>0.52</td>
</tr>
<tr>
<td>1.8 - 3/4</td>
<td>125</td>
<td>0.86</td>
<td>50</td>
<td>0.34</td>
</tr>
<tr>
<td>1.3 - 1.0</td>
<td>85</td>
<td>0.59</td>
<td>30</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Alcore gives no warranties, expressed, implied or statutory, or otherwise, as to the description, quality, fitness, capacity, or any other matter, of the properties described. The data given represents typical values to be expected. Through additional testing of each lot it is possible to verify that the product exceeds the tabulated values. It is recommended, however, that prospective users evaluate the materials to determine their suitability for the users’ specific requirements. Values are given on the condition that the user assumes all risk and that responsibility for any loss or damage caused by or resulting from the use of such information is disclaimed by Alcore.

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