PRODUCT DATA SHEET

DESCRIPTION
Toray Advanced Composites’ aluminum commercial (AAC) grade honeycomb core is manufactured from corrosion-resistant 3003 alloy foil.

Designed to offer industrial users and designers high strength-to-weight properties at relatively low cost, aluminum honeycomb is particularly suitable as a shear carrying core in adhesively bonded sandwich panel assemblies.

FEATURES
- High strength-to-weight ratio
- Corrosion resistant
- Easily machined and formed
- Low cost
- Perforated foil available
- Cut to customer thickness specification

TYPICAL APPLICATIONS
- Automotive chassis construction
- Industrial tooling panels
- Railway interior panels and floors
- Architectural panels
- Shelving, table, and counter tops
- Commercial vehicle panels
- Marine interior panels

A wide variety of other applications have been found to exploit the unique properties of aluminum honeycomb such as:
- Laser cutting—reduces surface damage on delicate materials, reduces spatter removal
- Energy absorption—crash barriers, impact protection
- Air or fluid flow control—wind tunnels, refrigeration display counters
- Light collimation
- Heat exchangers

PRODUCT DESIGNATION

<table>
<thead>
<tr>
<th>e.g.</th>
<th>AAC  (a)</th>
<th>5.2  (b)</th>
<th>1/4 (c)</th>
<th>25 (d)</th>
<th>N (e)</th>
<th>3003 (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>AAC</td>
<td>Toray aluminum commercial honeycomb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>5.2</td>
<td>Density (lb/ft³)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>1/4</td>
<td>Cell size in fractions of an inch</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>d.</td>
<td>25</td>
<td>Nominal foil thickness in ten thousands of an inch e.g., 0.0025 in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>N</td>
<td>Nonperforated foil</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>f.</td>
<td>3003</td>
<td>Grade of aluminum alloy</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

PRODUCT RANGE

Standard products:
The following products are usually available as ex-stock items.
- AAC-1.8-3/4-25N-3003
- AAC-5.2-1/4-25N-3003

For our range of aerospace grade aluminum honeycomb (AAA) in 5052 or 5056 grade foil, please refer to Toray’s aluminum honeycomb—aerospace grade product data sheet.

STANDARD DIMENSIONS AND TOLERANCES

Nominal sheet length (W) = 2440 mm min.
Nominal sheet width (L) = 1220 mm min.
Sheet thickness tolerance as requested above 2 mm ± 0.125 mm
Density as nominal ± 17%
Cell size as nominal ± 10%

Other sheet sizes may be available upon request. Overexpanded sheets are also available.
**MECHANICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Compressive</th>
<th>Crush</th>
<th>Plate Shear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bare</td>
<td>Stabilized</td>
<td>“L Direction”</td>
</tr>
<tr>
<td></td>
<td>Strength (psi)</td>
<td>Strength (psi)</td>
<td>Modulus (ksi)</td>
</tr>
<tr>
<td>Typical</td>
<td>Min.</td>
<td>Typical</td>
<td>Min.</td>
</tr>
<tr>
<td>AAC-1.8-3/4-25N-3003</td>
<td>110</td>
<td>82</td>
<td>125</td>
</tr>
<tr>
<td>AAC-5.2-1/4-25N-3003</td>
<td>620</td>
<td>465</td>
<td>655</td>
</tr>
</tbody>
</table>

**T = Thickness or cell depth      L = Ribbon direction      W = Direction perpendicular to the ribbon direction**

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