TenCate Advanced Composites’ aluminium commercial (AAC) grade honeycomb core is manufactured from corrosion resistant 3003 alloy foil.

### Aluminium Honeycomb - Commercial Grade Features / Benefits

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

### APPLICATIONS

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

Typical sandwich panel applications include:

- 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 aluminium 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
ALUMINIUM HONEYCOMB - COMMERCIAL GRADE
Core Material

PRODUCT DESIGNATION

<table>
<thead>
<tr>
<th>e.g.</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g.</td>
<td>AAC</td>
<td>5.2</td>
<td>1/4</td>
<td>25</td>
<td>N</td>
<td>3003</td>
</tr>
</tbody>
</table>

a. AAC = TenCate Aluminium Commercial honeycomb
b. 5.2 = Density in pounds per cubic foot (lb/ft³)
c. 1/4 = Cell size in fractions of an inch
d. 25 = Nominal foil thickness in ten thousands of an inch
e. N = Non-perforated foil
P = Perforated foil
f. 3003 = Grade of aluminium alloy

PRODUCT RANGE

Standard products:
The following products are usually available as ex-stock items, other grades are available to order.

AAC-1.8-3/4-25N-3003
AAC-3.4-1/4-15N-3003
AAC-3.7-3/8-25N-3003
AAC-3.7-3/8-25P-3003
AAC-5.2-1/425N-3003
AAC-5.2-1/4-25P-3003

For our range of aerospace grade aluminium honeycomb (AAA) in 5052 or 5056 grade foil, please refer to TenCate's aluminium 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 2mm ± 0.125 mm
Density as nominal 17%
Cell size as nominal 10%

Other sheet sizes may be available upon request.
Over expanded sheets are also available.
## ALUMINIUM HONEYCOMB - COMMERCIAL GRADE

### Core Material

<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>Stabilised</td>
<td>L Direction</td>
</tr>
<tr>
<td></td>
<td>Strength (psi)</td>
<td>Strength (psi)</td>
<td>Modulus (ksi)</td>
</tr>
<tr>
<td></td>
<td>typical</td>
<td>min</td>
<td>typical</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-3.4-1/4-15N-3003</td>
<td>305</td>
<td>-</td>
<td>330</td>
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<tr>
<td>AAC-3.7-1/4-25N-3003</td>
<td>335</td>
<td>-</td>
<td>365</td>
</tr>
<tr>
<td>AAC-5.2-1/4-25N-3003</td>
<td>620</td>
<td>465</td>
<td>655</td>
</tr>
</tbody>
</table>

### Hexagonal cell

- **T**: Thickness, or cell depth
- **L**: Ribbon direction
- **W**: Direction perpendicular to the ribbon direction

### Overexpanded cell

- **T**: Thickness, or cell depth
- **L**: Ribbon direction
- **W**: Direction perpendicular to the ribbon direction
ALUMINIUM HONEYCOMB - COMMERCIAL GRADE
Core Material

FURTHER INFORMATION

Please contact TenCate Advanced Composites, Langley Mill for additional information.

All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties. TenCate and TenCate AmberTool® and all other related characters, logos and trade names are claims and/or registered trademarks of Koninklijke Ten Cate N.V. and/or its subsidiaries in one of more countries. Use of trademarks, trade names and other IP rights of TenCate without express written approval of TenCate is strictly prohibited.