

# PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

## ALUMINIUM HONEYCOMB - COMMERCIAL GRADE Core Material

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
- › Corrosion resistant
- › Easily machined and formed
- › Low cost
- › Perforated foil available
- › 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

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### PRODUCT DESIGNATION

e.g. AAC 5.2 1/4 25 N 3003  
(a) (b) (c) (d) (e) (f)

- a. AAC = TenCate Aluminium Commercial honeycomb
- b. 5.2 = Density in pounds per cubic foot (lb/ft<sup>3</sup>)
- 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-5.2-1/4-25N-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  $\pm$  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.

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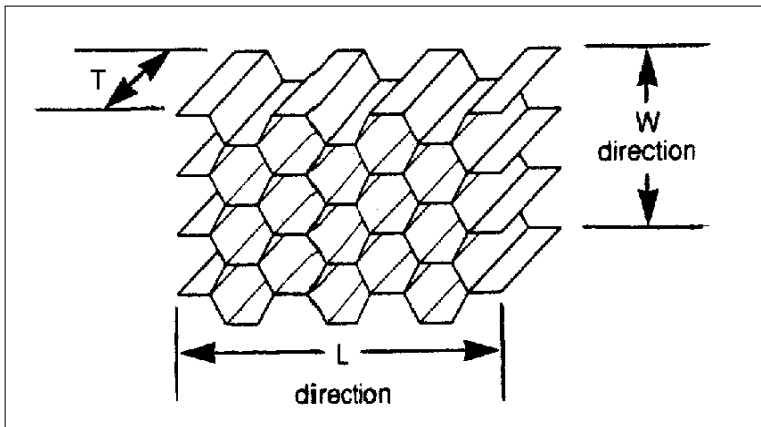


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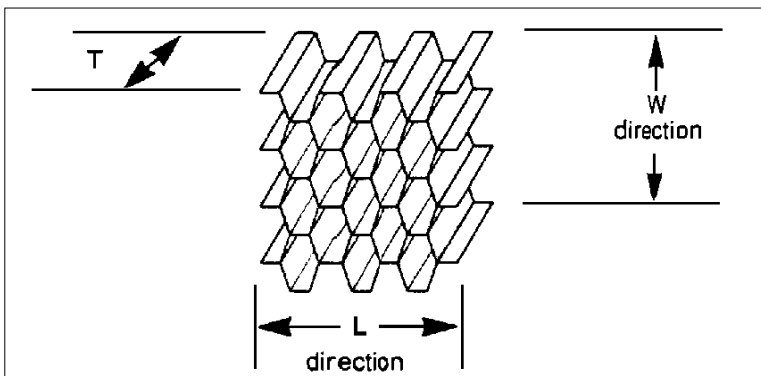
Property	Compressive					Crush	Plate Shear					
	Bare		Stabilised				L Direction				W Direction	
	Strength (psi)		Strength (psi)		Modulus (ksi)	Strength (psi)	Strength (psi)		Modulus (ksi)	Strength (psi)		Modulus (ksi)
	typical	min	typical	min	typical	typical	typical	min	typical	typical	min	typical
AAC-1.8-3/4-25N-3003	110	82	125	-	24	40	95	71	16	55	41	8
AAC-3.4-1/4-15N-3003	305	-	330	-	78	115	205	-	35	105	-	17
AAC-3.7-1/4-25N-3003	335	-	365	-	91	120	210	-	40	125	-	20
AAC-5.2-1/4-25N-3003	620	465	655	-	145	235	304	258	63	210	161	31

Hexagonal cell



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

Overexpanded cell



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### 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.

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### TENCATE ADVANCED COMPOSITES

Amber Drive, Langley Mill  
Nottingham, NG16 4BE UK  
Tel: +44 (0)1773 530899

G. van der Muelenweg 2  
7443 RE Nijverdal NL  
Tel: +31 548 633 933

18410 Butterfield Blvd.  
Morgan Hill, CA 95037 USA  
Tel: +1 408 776 0700

[www.tencateadvancedcomposites.com](http://www.tencateadvancedcomposites.com)

E-mail: [tcacsales@tencate.com](mailto:tcacsales@tencate.com) (Europe)  
E-mail: [info@tcac-usa.com](mailto:info@tcac-usa.com) (USA)