

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 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.

PRODUCT DESIGNATION

e.g.	AAC (a)	5.2 (b)	1/4 (c)	25 (d)	N (e)	3003 (f)
a. AAC	Toray aluminum commercial honeycomb					
b. 5.2	Density (lb/ft ³)					
c. 1/4	Cell size in fractions of an inch					
d. 25	Nominal foil thickness in ten thousands of an inch e.g., 0.0025 in.					
e. N P	Nonperforated foil Perforated foil					
f. 3003	Grade of aluminum alloy					

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.



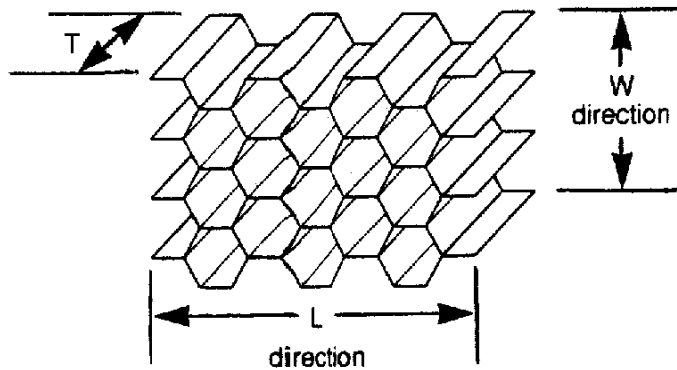
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PRODUCT DATA SHEET

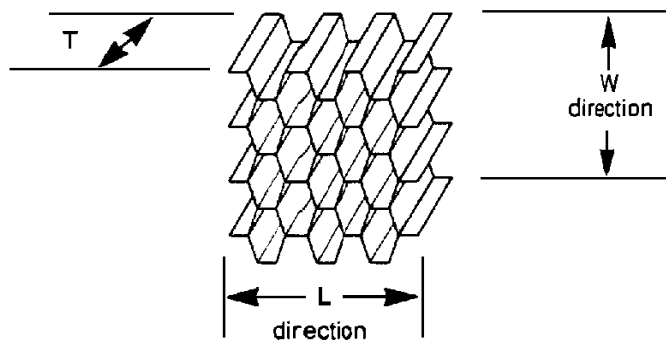
MECHANICAL PROPERTIES

Property	Compressive					Crush	Plate Shear					
	Bare		Stabilized				"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-5.2-1/4-25N-3003	620	465	655	-	145	235	304	258	63	210	161	31

HEXAGONAL CELL



OVEREXPANDED CELL



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

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AlumHC-Comm_PDS_v9.1_2020-01-22 Page 2/2

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