

Corex Honeycomb is a UK based company producing high quality aluminium honeycomb that is supplied worldwide and can be used for a wide variety of applications.

Corex Honeycomb is recognised as a product which possesses an excellent strength to weight ratio. It is applicable where rigid and light weight properties are required and its use is virtually unlimited.

MATERIAL SPECIFICATION

Corex Honeycomb manufacture hexagonal honeycomb from different aluminium alloy grades such as the 3000 and 5000 series. The Corex Honeycomb range can be supplied in a variety of conditions:

- Expanded or unexpanded
- In full blocks or cut slices
- Corrosion treated or untreated
- Perforated or non-perforated

• Expanded Core Sizes

Standard expanded honeycomb sizes are:

- W 2500mm x L 1250mm
- W 3000mm x L 1500mm

Other block sizes are available on request. Depending on the cell size, up to 18000mm can be achieved in the W direction.

• Cutting Service

Honeycomb blocks can be cut to thicknesses to suit individual customer requirements. The latest cutting technology allows Corex Honeycomb to supply slices up to a tolerance of ± 0.125 mm. A minimum slice thickness of 3mm can be achieved.

• Corrosion Treatment

Corrosion and non-corrosion treated aluminium honeycomb is available depending on the customer requirements.

MATERIAL PROPERTIES

• Elevated Temperature Performance

Aluminium honeycomb will withstand temperatures between $+120/-30^{\circ}$ C, although the properties will reduce as the temperature increases/decreases.

• Machining

Our honeycomb can be machined to form a complex surface with the use of high speed routers. Some single curvature contours can be machined on to an unexpanded slice before expansion.

• Bonding

Non-volatile adhesive should be used for bonding skins to the honeycomb core to prevent possible build up of volatile substances during the curing process. This may be alleviated by using perforated honeycomb.



TECHNICAL SUPPORT

Corex Honeycomb offers engineering support services such as:

- Consultancy
- Design solutions
- Simulation (FE-Analysis)
- Testing

HAND EXPANDER

Corex Honeycomb offers an easy to use Hand Expander that can be used to expand most honeycomb slices. The Hand Expander is a cost effective alternative to a motorised expansion table and has been designed to save transport costs for smaller volume users by allowing customers to purchase honeycomb in its unexpanded format.

QUALITY

Corex Honeycomb is certified to ISO 9001:2008 and is committed to continually improving its quality systems in order to provide its customers with the best quality products.

Corex Honeycomb is certified to ISO 14001:2004, minimising its environmental impact as well as controlling its environmental aspects in order to provide an environmentally friendly product to its customers.

Corex Honeycomb has been granted the Wheelmark and United States Coast Guard Certification. This means that Corex Honeycomb can now be fitted onboard any European or American marine vessel as it complies with the International Convention for the Safety of Life at Sea 1974 and Smoke and Toxicity Test to IMO Resolution MSC 61(67).

Corex Honeycomb has been approved and certified to BSEN9100:2009 (AS9100 Rev C). The Aerospace standard is based on the international quality standard ISO9001. The purpose of BSEN9100:2009 is to provide the requirements for a quality management system (QMS), which is a framework for an organisation to control its processes.



A WORLD OF APPLICATIONS

TECHNICAL SPECIFICATIONS



APPLICATIONS:

Construction/Architectural

Building Facades
Ceiling & Flooring Panels
Clean Rooms
Furniture
Light Diffusion

Air Conditioning/Wind

Tunnels/Shielding
Heating
Ventilation
Flow Straightening
Electromagnetic Shielding

Rail

Interior Panels & Partitions
Furniture
Galleys & Sanitary Modules
Energy Absorbers

Automotive

Commercial Vehicles
Access Ramps
Caravans & Motorsport
Energy Absorbers

Logistics

Bespoke Transportation Cases

Wind Turbines

Rotor Blades
Turbine Cladding
Mould Construction

Marine

Interior Panels & Partitions
Furniture
Ceiling & Flooring Panels
Hulls & Bulkheads



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COREX ALUMINIUM HONEYCOMB RANGE

	Cell Size Inches	1"		3/4"		1/2"		3/8"		1/4"		3/16"		1/8"		1/16"	
		25.4mm		19.1mm		12.7mm		9.5mm		6.4mm		4.8mm		3.2mm		1.6mm	
3000 Alloy Series	Density	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³
		5000 Alloy Series		0.9	14.4	1.3	20.8	1.8	28.8	2.4	38.4	3.4	54.5	4.4	70.5	8.1	129.7
		1.3	20.8	1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.0*	16.4*	262.7*
		0.6	9.6	0.8	12.8	1.1	17.6	1.6	25.3	2.3	36.8	3.1	49.7	4.5	72.1	9.2	147.7
		1.3	20.8	1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.2*	16.4*	262.7*

3000 ALLOY SERIES

Cell Size Inches	Nominal Density lb/ft ³	Compressive		Crush Strength psi	Plate Shear			
		Bare	Stabilised		L Direction		W Direction	
					Strength psi	Modulus ksi	Strength psi	Modulus ksi
1/4 (6.4mm)	3.4 (54.5 kg/m ³)	305	330	115	205	35	105	17
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	625	655	235	360	65	210	35
3/8 (9.5mm)	2.4 (38.4 kg/m ³)	180	195	55	115	24	65	12
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	335	365	120	225	40	125	20
1/2 (12.7mm)	1.8 (28.8 kg/m ³)	100	115	35	90	20	55	8
1/2 (12.7mm)	2.6 (41.6 kg/m ³)	195	210	60	135	27	75	13
3/4 (19.1mm)	1.3 (20.8 kg/m ³)	55	65	25	50	13	35	6
3/4 (19.1mm)	1.8 (28.8 kg/m ³)	115	125	40	95	22	60	10

5000 ALLOY SERIES

Cell Size Inches	Nominal Density lb/ft ³	Compressive		Crush Strength psi	Plate Shear			
		Bare	Stabilised		L Direction		W Direction	
					Strength psi	Modulus ksi	Strength psi	Modulus ksi
1/16 (1.6mm)	9.2 (147 kg/m ³)	1470	1519	735	850	150	520	53
1/16 (1.6mm)	16.4 (262 kg/m ³)*	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1/8 (3.2mm)	4.5 (72.1 kg/m ³)	539	559	255	340	70	220	31
1/8 (3.2mm)	10.0 (160.2 kg/m ³)*	2058	2205	1029	980	175	550	65
3/16 (4.8mm)	3.1 (49.7 kg/m ³)	284	328	127	210	45	125	22
3/16 (4.8mm)	6.9 (110.5 kg/m ³)	1097	1152	564	590	114	375	46
1/4 (6.4mm)	2.3 (36.8 kg/m ³)	186	206	74	140	32	85	16
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	676	745	328	410	82	265	35
3/8 (9.5mm)	1.6 (25.6 kg/m ³)	88	93	39	85	21	50	11
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	362	402	176	250	55	160	26

The above is an indication of the properties of Corex Honeycomb aluminium core. Please note that the above values are not guaranteed and should be used as an indication only. Variations in the above mentioned figures may occur without notice. *Sizes available on request.