

# TECHNICAL DATASHEET

## 5056 Aluminum Honeycomb

For those designers demanding maximum mechanical strength with excellent corrosion resistance, 5056 aluminum honeycomb is the lightweight material of choice.

Prior to bonding, the foil is cleaned and treated using a proprietary chemical conversion coating. The resulting honeycomb exhibits excellent corrosion resistance in hostile environments, especially salt fog. Typical weight loss after 30 days in salt fog (using ASTM B-117) is 15mg/ft<sup>2</sup> (161.4mg/m<sup>2</sup>). While MIL-C-7438 allows up to 125mg/ft<sup>2</sup> (1345.0mg/m<sup>2</sup>).

We produce a broad range of cell sizes and densities, assuring that the correct product will be available for your application. When combined with our ability to custom-manufacture specific core types, plus our precision processing capabilities, we can supply your core requirements in any shape, size, density, or contour that you need.

For lightweight applications requiring excellent mechanical strength and corrosion resistance at a competitive rate 5056 is the best all-round structural core material

### Applications

- Aircraft control surfaces
- Energy absorbers
- Aircraft engine nacelles
- RF and EMI shielding
- Advanced sporting equipment
- Space and satellite components
- Air and light directionalisation
- Other high performance applications requiring maximum strength to weight ratio

### Features

- Maximum mechanical strength
- Corrosion resistant
- Elevated temperature performance to 350°F/177°C
- Fire and fungus resistant
- Broad range of cell sizes
- Easily machined and formed
- Resistant to hostile environments
- Complies with MIL-C-7438 and many other aerospace specifications

### Availability

- Unexpanded blocks
- Expanded sheets
- Unexpanded slices
- Pieces cut to size

### Other Products

If you need different performance to your application, CML offers many other products including;

- Commercial grade aluminium honeycomb
- Aramid fiber honeycomb
- Thermoplastic honeycomb
- Aluminium honeycomb in 5052 alloys
- TERMO-COR and POLYCORE phenolic and polyisocyanurate foams
- PAA-CORE aluminium honeycomb in both 5052 and 5056 alloy

Available Dimensions						
	inches	mm	inches	mm	inches	mm
Ribbon (L)	48	1219	100	2540	+2.0 / -0.0	+50.8 / -0.0
Transverse (W)	96	2438	144	3658	+4.0 / -0.0	+101.6 / -0.0
Thickness (T)			35	889		
	Up to 4 inches (102mm) T				+0.005	+0.727
	Over 4 inches (102mm) T				+0.062	+1.575
Density	see mechanical characteristics chart				+10%	

DURA-CORE II 5056 Aluminium Honeycomb (SI/Metric Version)									
Mechanical Characteristics									
lbs - inches -inches	Mpa		Mpa	Mpa				Mpa	
	23°C	177°C	23°C	L		W		L	W
				23°C	177°C	23°C	177°C		
3.1 - 1/8 - .0007	2.45	1.59	1.24	1.75	1.17	1.10	0.76	221	110
4.5 - 1/8 - .0010	4.83	3.31	2.21	3.10	1.89	1.79	1.24	352	172
6.1 - 1/8 - .0015	8.34	5.38	3.97	4.83	2.93	2.83	1.69	531	255
8.1 - 1/8 - .0020	13.24	9.31	5.86	6.62	4.07	3.96	2.34	772	345
10.0 - 1/8 - .0025	15.17	11.20	8.27	8.21	5.72	4.65	3.14	965	414
12.0 - 1/8 - .0030	19.65	13.45	10.69	11.89*	9.86*	7.07*	3.21*	1103	517
2.6 - 5/32 - .0007	1.86	1.10	0.90	1.41	0.90	0.83	0.62	165	83
3.8 - 5/32 - .0010	3.52	2.41	1.59	2.34	1.59	1.38	1.21	283	138
5.3 - 5/32 - .0015	6.03	4.31	3.00	3.86	2.55	2.31	1.69	441	214
6.9 - 5/32 - .0020	9.31	7.17	4.55	5.34	3.62	3.03	2.07	527	290
2.0 - 3/16 - .0007	1.41	0.79	0.55	1.00	0.69	0.60	0.48	117	62
3.1 - 3/16 - .0010	2.90	1.59	1.24	1.86	1.17	1.07	0.76	221	110
4.4 - 3/16 - .0015	4.65	3.28	2.14	3.00	1.79	1.72	1.17	345	165
5.7 - 3/16 - .0020	5.96	5.03	3.31	3.93	2.83	2.31	1.55	483	234
6.9 - 3/16 - .0025	8.62	7.07	4.55	5.27	3.62	3.10	2.07	627	290
8.1 - 3/16 - .0030	11.20	9.31	5.86	6.38	4.07	3.79	2.34	772	345
1.6 - 1/4 - .0007	0.79	0.06	0.41	0.63	0.48	0.43	0.28	90	41
2.3 - 1/4 - .0010	1.86	1.03	0.83	1.28	0.76	0.72	0.52	145	75
3.4 - 1/4 - .0015	3.38	2.07	1.31	2.07	1.31	1.24	0.86	241	124
4.3 - 1/4 - .0020	4.34	3.17	2.07	2.83	1.76	1.62	1.10	331	165
5.2 - 1/4 - .0025	5.72	4.31	2.62	3.45	2.48	2.14	1.34	427	207
6.0 - 1/4 - .0030	6.90	5.34	3.62	4.41	2.86	2.69	1.65	517	248
7.9 - 1/4 - .0040	10.89	8.96	5.65	6.21	3.90	3.72	2.28	745	338
1.0 - 3/8 - .0007	0.43	0.28	0.24	0.39	0.28	0.26	0.24	48	21
1.6 - 3/8 - .0010	0.79	0.69	0.41	0.64	0.48	0.43	0.28	90	41
2.3 - 3/8 - .0015	1.59	1.03	0.83	1.21	0.76	0.69	0.52	145	76
3.0 - 3/8 - .0020	2.41	1.52	1.10	1.72	1.14	1.03	0.69	207	103
3.7 - 3/8 - .0025	3.10	2.24	1.52	2.24	1.55	1.31	0.90	276	138
4.2 - 3/8 - .0030	3.79	2.83	2.00	2.72	1.79	1.66	1.07	324	159
5.4 - 3/8 - .0040	5.86	4.48	3.10	3.90	2.69	2.24	1.38	455	221
6.5 - 3/8 - .0050	7.83	6.55	4.14	4.90	3.17	2.90	2.07	572	276
2.6 - 1/2 - .0025	1.59	1.10	0.90	1.31	0.90	0.69	0.62	165	83
3.0 - 1/2 - .0030	2.17	1.52	1.10	1.55	1.14	0.86	0.69	207	103
6.0 - 1/2 - .0040	6.90	5.31	3.62	4.41	2.86	2.59	1.65	517	248

\* Beam Shear

**Important Notice:** The information and statements herein are believed to be reliable, but are not to be constructed as a warranty or representation for which we assume legal responsibility. User's should undertake sufficient verification and testing to determine the suitability for their own particular purposes of any information or products referred to herein. No warranty of fit for purpose is made. Nothing herein is to be taken as permission, inducement, or recommendation to practice and patented invention without licence.