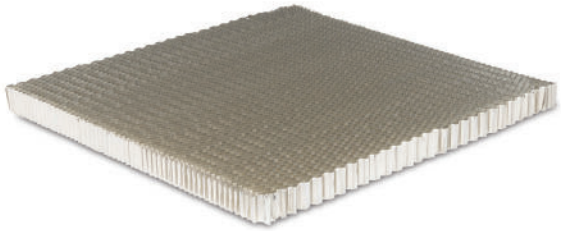
THE GILL CORPORATION - MARYLAND

PRODUCT DATA SHEET

DURA-CORE® II 5052 Aluminum Honeycomb

DESCRIPTION

DURA-CORE® II 5052 aluminum honeycomb provides the aerospace and commercial markets with a high degree of flexibility in solving lightweight structural design challenges.



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 15 mg/ft^2 (161.4 mg/m^2), while AMS-C-7438 allows up to 125 mg/ft^2 (1345.0 mg/m^2).

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 Special Processing capabilities, we can ship you drop-in core details in any shape, size, density or contour that you need.

For lightweight applications requiring excellent mechanical strength and excellent corrosion resistance at a good value, DURA-CORE® II 5052 is the best all-around structural core material.

APPLICATIONS

- Aircraft control surfaces, flooring
- Energy absorbers
- Aircraft engine nacelles
- RF and EMI shielding
- Advanced sporting equipment
- Space & satellite components
- Air and light directionalization
- Other high-performance applications

FEATURES

- Excellent strength-to-weight ratio
- 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 AMS-C-7438 and many other aerospace specifications

AVAILABILITY

- Unexpanded blocks
- Unexpanded slices
- Expanded sheets
- Pieces cut to size
- DURA-CORE® II 5052 aluminum honeycomb is available with cell perforations to facilitate venting
- Custom dimensions, cell sizes, tolerances and mechanical properties are also available

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AVAILABLE DIMENSIONS

	Standard		Maximum		Tolerance	
	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	±0.127
	over 4 inches (102mm) T				±0.062	±1.575
Density	see mechanical characteristics chart				±10%	
Cell Size	see mechanical characteristics chart				±10%	

HOW TO ORDER

When ordering, please specify DURA-CORE® II 5052 using the following format:

Example: DUR - 5052 - 3.1 - 3/16 - N - E, where

Product	Alloy	Density	Cell Size	Perforated or Non-Perforated	Expanded or Unexpanded
DUR	5052	3.1	3/16	P or N	E or U

HEALTH PRECAUTIONS

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. A SDS is available at www.thegillcorp.com/products/msds/html.

For industrial use only. Keep away from children. Additional information can be found at: www.thegillcorp.com. For sales and ordering information call 1-626-443-6094.

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Updated: 01/17/23

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Product Data Sheet

Mechanical Characteristics (Typical Values - US units)									
	Stabilized Compressive Strength		Crush Strength	Shear Strength				Shear Modulus	
lbs/ft³ - inches - inches	psi		psi	psi				ksi	
				L		W		L	W
	75° F	350° F	75° F	75° F	350° F	75° F	350° F	75° F	
3.1 - 1/8 - .0007	305	200	145	215	145	132	90	32	16
4.5 - 1/8 - .0010	580	380	270	345	240	225	150	51	25
6.1 - 1/8 - .0015	1030	660	450	565	400	345	220	77	37
8.1 - 1/8 - .0020	1575	1075	760	810	575	540	310	112	50
10.0 - 1/8 - .0025	1875	1300	1070	1075	810	610	415	140	60
12.0 - 1/8 - .0030	2920	1550	1400	1955*	1300*	950*	440	160	75
2.6 - 5/32 - .0007	245	150	105	170	110	102	80	24	12
3.8 - 5/32 - .0010	415	280	210	275	200	168	140	41	20
2.0 - 3/16 - .0007	180	100	70	122	80	71	65	17	9
3.1 - 3/16 - .0010	340	200	145	215	145	128	90	32	16
4.4 - 3/16 - .0015	555	375	270	335	235	220	145	50	24
5.7 - 3/16 - .0020	870	600	410	465	380	305	200	70	34
6.9 - 3/16 - .0025	1185	780	570	600	500	380	275	91	42
8.1 - 3/16 - .0030	1735	1075	760	735	575	490	310	112	50
2.3 - 1/4 - .0010	215	125	85	145	90	88	70	21	11
3.4 - 1/4 - .0015	375	235	160	235	160	145	100	35	18
4.3 - 1/4 - .0020	545	365	250	325	235	205	140	48	24
5.2 - 1/4 - .0025	770	500	330	415	330	270	160	62	31
6.0 - 1/4 - .0030	1110	650	430	535	390	350	210	75	36
7.9 - 1/4 - .0040	1505	1025	720	710	550	450	300	108	49
1.6 - 3/8 - .0010	98	70	50	88	60	51	35	13	6
2.3 - 3/8 - .0015	205	125	85	145	90	88	70	21	11
3.0 - 3/8 - .0020	315	190	135	205	140	128	85	30	15
3.7 - 3/8 - .0025	415	265	200	255	190	165	105	40	20
4.2 - 3/8 - .0030	565	340	240	315	230	205	130	47	23
5.4 - 3/8 - .0040	810	540	360	435	355	285	180	66	32
6.5 - 3/8 - .0050	1015	750	510	555	440	360	265	83	40
4.0 - 1/2 - .0040	400	320	220	290	220	170	120	44	22

For minimum values, please see AMS-C-7438. * Beam Shear

Updated: 01/17/23

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Mechanical Characteristics (Typical Values - SI/metric units)									
	Stabilized Compressive Strength		Crush Strength	Shear Strength				Shear Modulus	
lbs/ft³ - inches - inches	MPa		MPa	MPa				MPa	
				L		W		L	W
	23° C	177° C	23° C	23° C	177° C	23° C	177° C	23° C	
3.1 - 1/8 - .0007	2.10	1.38	1.00	1.48	1.00	0.91	0.62	221	110
4.5 - 1/8 - .0010	4.00	2.62	1.86	2.38	1.65	1.55	1.03	352	172
6.1 - 1/8 - .0015	7.10	4.55	3.10	3.90	2.76	2.38	1.52	531	255
8.1 - 1/8 - .0020	10.86	7.41	5.24	5.58	3.96	3.72	2.14	772	345
10.0 - 1/8 - .0025	12.93	8.96	7.38	7.41	5.58	4.21	2.86	965	414
12.0 - 1/8 - .0030	20.13	10.69	9.65	13.48*	8.96*	6.55*	3.03*	1103	517
2.6 - 5/32 - .0007	1.69	1.03	0.72	1.17	0.76	0.70	0.55	165	83
3.8 - 5/32 - .0010	2.86	1.93	1.45	1.90	1.38	1.16	0.97	283	138
2.0 - 3/16 - .0007	1.24	0.69	0.48	0.84	0.55	0.49	0.45	117	62
3.1 - 3/16 - .0010	2.34	1.38	1.00	1.48	1.00	0.88	0.62	221	110
4.4 - 3/16 - .0015	3.83	2.59	1.86	2.31	1.62	1.52	1.00	345	165
5.7 - 3/16 - .0020	6.00	4.14	2.83	3.21	2.62	2.10	1.38	483	234
6.9 - 3/16 - .0025	8.17	5.38	3.93	4.14	3.45	2.62	1.90	627	290
8.1 - 3/16 - .0030	11.96	7.41	5.24	5.07	3.96	3.38	2.14	772	345
2.3 - 1/4 - .0010	1.48	0.86	0.59	1.00	0.62	0.61	0.48	145	76
3.4 - 1/4 - .0015	2.59	1.62	1.10	1.62	1.10	1.00	0.69	241	124
4.3 - 1/4 - .0020	3.76	2.52	1.72	2.24	1.62	1.41	0.97	331	165
5.2 - 1/4 - .0025	5.31	3.45	2.28	2.86	2.28	1.86	1.10	427	214
6.0 - 1/4 - .0030	7.65	4.48	2.96	3.69	2.69	2.41	1.45	517	248
7.9 - 1/4 - .0040	10.38	7.07	4.96	4.90	3.79	3.10	2.07	745	338
1.6 - 3/8 - .0010	0.68	0.48	0.34	0.61	0.41	0.35	0.24	90	41
2.3 - 3/8 - .0015	1.41	0.86	0.59	1.0	0.62	0.61	0.48	145	76
3.0 - 3/8 - .0020	2.17	1.31	0.93	1.41	0.97	0.88	0.59	207	103
3.7 - 3/8 - .0025	2.86	1.83	1.38	1.76	1.31	1.14	0.72	276	138
4.2 - 3/8 - .0030	3.90	2.34	1.65	2.17	1.59	1.41	0.90	324	159
5.4 - 3/8 - .0040	5.58	3.72	2.48	3.00	2.45	1.97	1.24	455	221
6.5 - 3/8 - .0050	7.00	5.17	3.52	3.83	3.03	2.48	1.83	572	276
4.0 - 1/2 - .0040	2.76	2.21	1.52	2.00	1.52	1.17	0.83	303	152

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