



ALCORE

A Division of **ATP** Advanced Technical Products, Inc.

CGH™ Commercial Grade Aluminum Honeycomb



DESCRIPTION

Alcore's most economical aluminum honeycomb, CGH™ is a lightweight structural core material that offers excellent strength and corrosion resistance to meet a wide variety of applications. An advanced protection system is applied to the aluminum foil prior to processing into honeycomb, extending its service life in hot, wet and corrosive environments. Alcore produces three grades of CGH™:

- CGH™, our standard grade
- CGH™ SL (Super Light), 30% lighter than standard commercial grade aluminum honeycomb but just as strong
- CGH™ SS (Super Strength), 30% stronger than standard commercial grade aluminum honeycomb with no increase in weight

CGH™ aluminum honeycomb is a high performance, low cost core material, perfect for architectural, transportation, marine and other commercial/industrial applications.

APPLICATIONS

- Architectural and building panels
- Industrial equipment
- Marine panels
- Tooling board
- Railcar floors, walls
- Air directionalization
- Automotive, trucking
- Energy absorption
- Panels, doors, covers, shelving

OTHER PRODUCTS

If you need different performance for your application, Alcore offers many other products, including:

- DURA-CORE® II aluminum honeycomb in both 5052 and 5056 alloys
- PAA-CORE® aluminum honeycomb in both 5052 and 5056 alloys
- PROCELL™ aramid fiber honeycomb
- ISOCELL™ thermoplastic honeycomb
- THERMO-COR™ and POLYCORE™ phenolic and polyisocyanurate foams

Please contact Alcore customer service for technical and ordering information.

FEATURES

- Moisture resistant
- Corrosion resistant
- Service temperature up to 350° F/177° C
- High strength-to-weight ratio
- Fire resistant
- Fungus resistant
- Excellent energy absorption
- Machinable
- Low cost/excellent value

AVAILABILITY

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

CGH™ aluminum honeycomb is available with cell perforations to facilitate venting. Custom dimensions, cell sizes, tolerances and mechanical properties are available.

HOW TO ORDER

When ordering, please specify CGH™ using the following format:

Example: CGH SL – 3.5 – 1/4 – N – E, where

Product	Density	Cell Size	Perforated or Non-Perforated	Expanded or Unexpanded
CGH or CGH SL or CGH SS	3.5	1/4	P or N	E or U

AVAILABLE DIMENSIONS						
	Standard		Maximum		Tolerance	
	inches	mm	inches	mm	inches	mm
Ribbon (L)	48	1219	100	2540	+4.0 / -0.0	+101.6 / -0.0
Transverse (W)	96	2438	300	7620	+8.0 / -0.0	+203.2 / -0.0
Thickness (T)			35	889		
	up to 4 inches (102mm) T				±0.008	±0.203
	over 4 inches (102mm) T				±0.062	±1.575
Density	see mechanical characteristics chart				±15%	
Cell Size	see mechanical characteristics chart				±15%	

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CGH™ MECHANICAL CHARACTERISTICS (Typical values at 75° F/23° C)												
Density – Cell Size	Bare Compressive Strength		Crush Strength		Shear Strength				Shear Modulus			
					L		W		L		W	
lbs/ft ³ – inches	psi	MPa	psi	MPa	psi	MPa	psi	MPa	ksi	MPa	ksi	MPa
5.2 – 1/4	640	4.41	250	1.73	380	2.62	220	1.52	70	483	40	276
3.6 – 3/8	350	2.41	130	0.90	240	1.65	140	0.97	46	317	23	159
2.6 – 1/2	195	1.34	75	0.52	150	1.03	85	0.59	28	193	15	104
1.8 – 3/4	125	0.86	50	0.34	110	0.76	70	0.48	20	138	10	69
1.3 – 1.0	85	0.59	30	0.21	70	0.48	50	0.34	14	97	7	48

CGH™ SL MECHANICAL CHARACTERISTICS (Typical values at 75° F/23° C)												
Density – Cell Size	Bare Compressive Strength		Crush Strength		Shear Strength				Shear Modulus			
					L		W		L		W	
lbs/ft ³ – inches	psi	MPa	psi	MPa	psi	MPa	psi	MPa	ksi	MPa	ksi	MPa
3.5 – 1/4	630	4.34	247	1.70	374	2.58	217	1.50	69	476	39	269
2.4 – 3/8	345	2.38	128	0.88	236	1.63	138	0.95	45	310	22	152
1.7 – 1/2	192	1.32	74	0.51	148	1.02	83	0.57	28	193	14	97
1.2 – 3/4	123	0.85	49	0.34	108	0.74	69	0.48	20	138	10	69
0.9 – 1.0	84	0.58	29	0.20	69	0.48	49	0.34	14	97	7	48

CGH™ SS MECHANICAL CHARACTERISTICS (Typical values at 75° F/23° C)												
Density – Cell Size	Bare Compressive Strength		Crush Strength		Shear Strength				Shear Modulus			
					L		W		L		W	
lbs/ft ³ – inches	psi	MPa	psi	MPa	psi	MPa	psi	MPa	ksi	MPa	ksi	MPa
5.2 – 1/4	832	5.74	333	2.30	494	3.41	286	1.97	93	641	52	359
3.6 – 3/8	455	3.14	173	1.19	312	2.15	182	1.25	61	421	31	214
2.6 – 1/2	254	1.75	100	0.69	195	1.34	111	0.77	36	248	20	138
1.8 – 3/4	163	1.12	65	0.45	143	0.99	91	0.63	26	179	13	90
1.3 – 1.0	111	0.77	40	0.28	91	0.63	65	0.45	20	138	9	62

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