



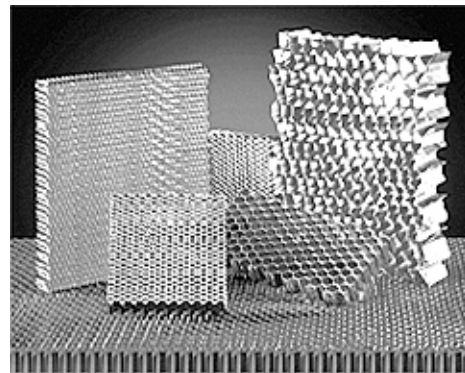
Commercial Grade Honeycomb Aluminum Honeycomb

July 2004

Description

Alcore's most economical aluminum honeycomb, Commercial Grade Honeycomb 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 Commercial Grade Honeycomb:



Commercial Grade Honeycomb, our standard grade.

Commercial Grade Honeycomb, 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
- Airflow straightness
- Automotive, trucking
- Energy absorption
- Panels, doors, covers, shelving

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
- Unexpanded slices
- Expanded sheets
- Pieces cut to size

Commercial Grade Honeycomb, 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 Commercial Grade Honeycomb using the following format:

Example: Commercial Grade Honeycomb - 3.5 - 1/4 - N - E, where

Product	Density	Cell Size	Perforated or Non-Perforated	Expanded or Unexpanded
Commercial Grade Honeycomb	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%	

Commercial Grade Honeycomb 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

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