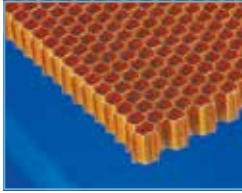




# Honeycomb Cores

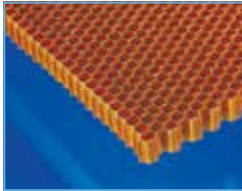
A full product listing can be found at [www.plascore.com](http://www.plascore.com)



## PN1 Commercial Grade Aramid Fiber Honeycomb

Manufactured from DuPont Nomex® paper (or equivalent) and coated with a heat resistant phenolic resin

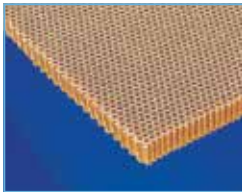
- High strength to weight ratio
- Fire resistant (self extinguishing)
- Corrosion resistant, thermally insulating
- Excellent dielectric properties
- Excellent creep and fatigue performance
- Good thermal stability
- Over expanded cell configuration suitable for forming simple curves
- Compatible with most adhesives



## PN2 Aerospace Grade Aramid Fiber Honeycomb

Manufactured from DuPont Nomex® paper (or equivalent) and coated with a heat resistant phenolic resin.

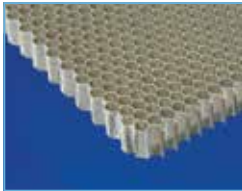
- High strength to weight ratio
- Fire resistant (self extinguishing)
- Corrosion resistant, thermally insulating
- Excellent dielectric properties
- Excellent creep and fatigue performance
- Good thermal stability
- Over expanded cell configuration suitable for forming simple curves
- Compatible with most adhesives



## PK2 Kevlar® N636 Para-Aramid Fiber Honeycomb

Manufactured with para-aramid fiber paper (DuPont Kevlar® N636 or equivalent) coated with a heat resistant phenolic resin. Exhibits improved performance characteristics over Nomex®.

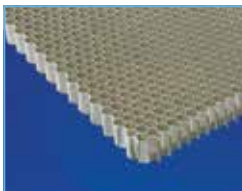
- Up to 40% higher properties than Nomex® honeycomb
- Improved shear strength and modulus
- Extremely high strength to weight ratio
- Excellent thermal and moisture stability
- Conforms to stringent smoke, toxicity and flammability standards



## PAMG 5052 Aluminum Honeycomb

Made from 5052 aluminum alloy foil and meets all the requirements of AMS(MIL)-C-7438.

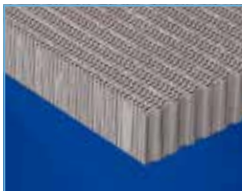
- Available with XR1 or PA3 coating
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant and fungi resistant
- Superior strength over commercial grade aluminum honeycomb



## PAMG 5056 Aluminum Honeycomb

Made from 5056 aluminum alloy foil and meets all the requirements of AMS(MIL)-C-7438.

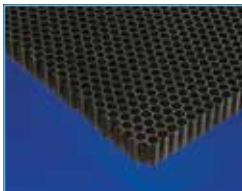
- Available with XR1 or PA3 coating
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant and fungi resistant
- Superior strength over 5052 and commercial grade aluminum honeycomb



## PAHD 5052 Aluminum Honeycomb

Made from 5052 aluminum alloy foil and can be tested in accordance with customer requirements.

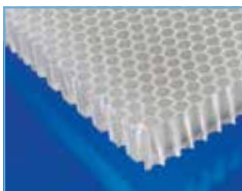
- Available with XR1 or PA3 coating
- Elevated use temperatures
- High thermal conductivity
- Flame resistant
- Excellent moisture and corrosion resistance
- Fungi resistant
- High strength
- Machinable
- Roll formable



## PC2 Polycarbonate Honeycomb

PC2 polycarbonate honeycomb exhibits a unique cell structure. The core has 3 orientations vs. the 2 orientations common with other honeycomb, making its properties more uniform. Each cell has a tubular form and is inherently stable.

- Excellent dielectric properties
- Good thermal and electric insulator
- Conductive grades available
- Fire, corrosion and fungi resistant
- Sandwich skins can be melted to core
- Use temperatures below 200°F
- Small cell sizes at high densities
- Available transparent and in colors



## PP Polypropylene Honeycomb

Supplied with or without a non-woven polyester veil for better bonding. It is also supplied with or without a film barrier under the polyester veil to limit the amount of resin consumption.

- High strength to weight ratio
- Corrosion, fungi, rot, chemical and moisture resistant
- Sound and vibration dampening
- Energy absorbing
- Thermoformable
- Temperature use to 180°F
- Recyclable

PN1 Mechanical Properties																								
PLASCORE® Honeycomb Designation	DENSITY		COMPRESSIVE (BARE) STRENGTH				PLATE SHEAR "L" DIRECTION						PLATE SHEAR "W" DIRECTION											
							STRENGTH			MODULUS			STRENGTH			MODULUS								
	TYP		MIN		TYP		MIN		TYP		TYP		MIN		TYP									
	lb/ft³	kg/m³	psi	MPa	psi	MPa	psi	MPa	psi	MPa	ksi	Gpa	psi	MPa	psi	MPa	ksi	Gpa						
PN1-1/8-3.0	3.0	48	280	1.93	190	1.31	195	1.34	133	0.92	6.4	0.044	95	0.66	70	0.48	3.3	0.023						
PN2-3/16-3.0	3.0	48	290	2.00	190	1.31	175	1.21	133	0.92	5.8	0.040	105	0.72	64	0.44	3.9	0.027						
PN1-1/4-3.0	3.0	48	270	1.86	190	1.31	170	1.17	133	0.92	5.4	0.037	105	0.72	64	0.44	4.8	0.033						
PN2-3/16-3.0-OV	3.0	48	270	1.86	238	1.64	110	0.76	71	0.49	3.2	0.022	130	0.90	71	0.49	6.3	0.043						
PN2 Mechanical Properties																								
PN2-1/8-1.8	1.8	29	85	0.59	74	0.51	75	0.52	60	0.41	3.8	0.026	45	0.31	32	0.22	1.7	0.012						
PN2-1/8-3.0	3.0	48	290	2.00	200	1.38	205	1.41	140	0.97	6.7	0.046	105	0.72	74	0.51	3.5	0.024						
PN2-1/8-4.0	4.0	64	515	3.55	350	2.41	275	1.90	215	1.48	8.6	0.059	150	1.04	108	0.74	4.7	0.032						
PN2-3/16-3.0	3.0	48	300	2.07	200	1.38	185	1.28	140	0.97	6.1	0.042	110	0.76	67	0.46	4.1	0.028						
PN2-3/16-3.0-OV	3.0	48	280	1.93	250	1.72	115	0.79	75	0.52	3.3	0.023	135	0.93	75	0.52	6.6	0.045						
PK2 Typical Mechanical Properties																								
PK2-1/8-2.5	2.5	40.0	225	1.55	–	–	190	1.31	–	–	15.0	0.104	115	0.79	–	–	8.1	0.056						
PK2-1/8-3.0	3.0	48.1	315	2.17	–	–	235	1.62	–	–	15.6	0.107	140	0.97	–	–	9.0	0.062						
PAMG 5052 Typical Mechanical Properties																								
PLASCORE® HONEYCOMB DESIGNATION			COMPRESSIVE (BARE)						PLATE SHEAR "W" DIRECTION															
CELL SIZE (IN)	FOIL GAUGE (IN)	NOMINAL DENSITY (PCF)	STRENGTH (PSI)			MODULUS (KSI)			STRENGTH (PSI)		MODULUS (KSI)													
			"L"		"W"	"L"		"W"	"L"		"W"													
1/8	.0007	3.1	270			75			210	130	45		22											
1/8	.001	4.5	520			150			340	220	70		31											
3/16	.002	5.7	770			220			460	300	90		38											
1/4	.0015	3.4	320			90			235	150	50		24											
1/4	.002	4.3	480			140			320	210	66		29											
PAMG 5056 Typical Mechanical Properties																								
1/8	.0007	3.1	340			97			250	155	45		20											
1/8	.001	4.5	630			185			425	255	70		38											
1/8	.0015	6.1	1000			295			640	370	102		38											
3/16	.0007	2.0	155			45			140	85	27		13											
3/16	.001	3.1	340			97			255	155	45		20											
PAHD Typical Mechanical Properties																								
PLASCORE® HONEYCOMB DESIGNATION			COMPRESSIVE STRENGTH (PSI)				STRENGTH (PSI)				CRUSH STRENGTH (PSI)													
CELL SIZE	NOMINAL PCF	CONFIGURATION	BARE		STABILIZED		"L"		"W"															
1/8	14.5	STD	2900		3000		2100		1500		2000													
3/16	15.7	STD	3200		3300		1700		800		2000													
1/8	22.1	STD	5200		5200		2500		1500		4050													
3/16	22	R2S	5200		4500		2500		1500		2600													
3/16	25	R2S	5500		5600		3000		1500		2800													
1/8	30	R1S-Cross	–		–		–		–		2900													
1/8	38	R2	7500		7700		4000		2000		6200													
1/8	55	2R2S	8500		10000		4500		2250		8000													
PC2 Polycarbonate Mechanical Properties																								
PLASCORE® HONEYCOMB DESIGNATION			COMPRESSIVE (BARE)						PLATE SHEAR															
CORE TYPE	CELL SIZE (IN)	DENSITY (PCF)	STRENGTH (PSI)			MODULUS (KSI)			STRENGTH (PSI)		MODULUS (KSI)													
PC2	1/8	5.0	280			30			110		3.2													
PC2	1/4	4.0	210			26			90		3.3													
PP Honeycomb Core Mechanical Properties																								
CORE	CELL SIZE		DENSITY				FLATWISE TENSIL		BARE COMPRESSION						PLATE SHEAR "W" DIRECTION									
									STRENGTH			MODULUS			STRENGTH			MODULUS						
	TYP		MIN		STRENGTH		TYP		MIN		TYP		MIN		TYP		MIN							
	(in)	(mm)	lb/ft³	kg/m³	lb/ft³	kg/m³	psi	MPa	psi	MPa	psi	MPa	ksi	MPa	ksi	MPa	psi	MPa	ksi	MPa				
PP1-5.0-N1-	0.315	8	5	80	4.75	75	130	0.89	275	1.89	255	1.55	11.5	79.2	9.5	65.4	85	0.58	75	0.52	2.2	15.2	1.7	11.7
PP1-4.0-N1-1	0.395	10	4	64	3.8	60	120	0.83	180	1.24	140	0.96	10.5	72.3	8.5	58.5	60	0.41	55	0.38	2.0	13.8	1.5	10.3

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