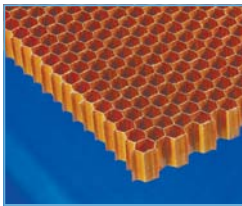




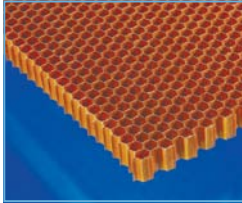
# Honeycomb Cores



## PN1 Commercial Grade Aramid Fiber Honeycomb

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

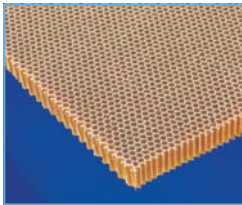
- High strength to weight ratio
- Fire resistant (self extinguishing)
- Corrosion resistant, thermally insulating
- Excellent dielectric properties
- Excellent creep and fatigue performance
- Good thermal stability
- Over expanded cell configuration suitable for forming simple curves
- Compatible with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



## PN2 Aerospace Grade Aramid Fiber Honeycomb

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

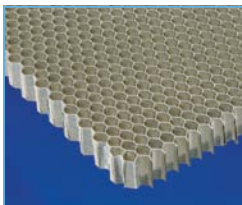
- High strength to weight ratio
- Fire resistant (self extinguishing)
- Corrosion resistant, thermally insulating
- Excellent dielectric properties
- Excellent creep and fatigue performance
- Good thermal stability
- Over expanded cell configuration suitable for forming simple curves
- Compatible with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

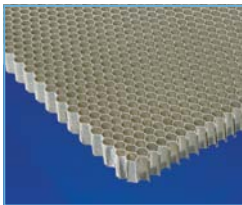
- Up to 40% higher properties than Nomex® honeycomb
- Improved shear strength and modulus
- Extremely high strength to weight ratio
- Excellent thermal and moisture stability
- Conforms to stringent smoke, toxicity and flammability standards



## PAMG-XR1 5052 Aluminum Honeycomb

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

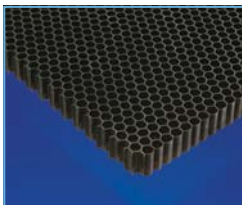
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant and fungi resistant
- Superior strength over commercial grade aluminum honeycomb



## PAMG-XR1 5056 Aluminum Honeycomb

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

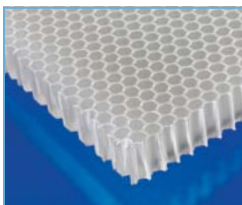
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant and fungi resistant
- Superior strength over 5052 and commercial grade aluminum honeycomb



## 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

# Mechanical Properties for Typical Applications

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



PN1 Mechanical Properties																								
PLASCORE® Honeycomb Designation	DENSITY		COMPRESSIVE (BARE) STRENGTH				PLATE SHEAR "L" DIRECTION						PLATE SHEAR "W" DIRECTION											
			STRENGTH		MODULUS		STRENGTH		MODULUS		STRENGTH		MODULUS											
	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN								
	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-XR1 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-XR1 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														
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		STRENGTH		MODULUS											
	TYP	MIN	TYP	MIN	TYP	MIN	TYP	MIN	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	ksi	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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