Aerospace

Honeycomb Core for Commercial and Military Aircraft, Space and Defense Applications
Plascore Honeycomb Core

For Commercial, Defense and Space Applications

Plascore is a global manufacturer in advanced honeycomb core. Plascore honeycomb core is used in a wide range of applications, wherever high strength-to-weight, dampering and dimensional accuracy are critical characteristics.

In commercial and defense aerospace industries, Plascore Aluminum, Nomex® and Kevlar® honeycomb meet manufacturers’ specifications for use throughout structures, control surfaces and interior components. Plascore’s breathable metallic core is ideal for satellite structures.

Our reputation and presence in the global aerospace industry is evident in lasting and dedicated relationships with numerous customers worldwide.

Plascore Honeycomb Core is:

- High Strength
- Light Weight
- Flame Resistant
- Cost Effective
- Moisture & Corrosion Resistant
- Suitable for Custom/Machined Shapes

With value-added capabilities and modern manufacturing facilities in the US and Europe, Plascore supports aerospace engineering and assembly plants throughout the world.

Make your composite structures lighter, stiffer and stronger… Build with Plascore.
Full Line of Honeycomb Core
Cell Size, Density and Material to Aerospace Specifications

PN2 Aerospace Grade Aramid Fiber Honeycomb
PN2 aerospace grade aramid fiber honeycomb exhibits outstanding flammability properties. It is 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
- Excellent dielectric properties
- Thermally insulating
- High toughness
- Excellent creep and fatigue performance
- Good thermal stability
- Over expanded cell configuration suitable for forming simple curves
- Compatible with most adhesives used in sandwich composites

PK2 Kevlar® N636 Para-Aramid Fiber Honeycomb
PK2 Kevlar® N636 para-aramid fiber honeycomb is an extremely lightweight, high strength, non-metallic honeycomb manufactured with para-aramid fiber paper (DuPont Kevlar® N636 or equivalent) coated with a heat resistant phenolic resin. This core material exhibits improved performance characteristics over Nomex® in the areas of weight, strength, stiffness and fatigue.

- Up to 40% higher properties than comparable density 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
PAMG 5052 aerospace grade aluminum honeycomb is a lightweight core material which offers superior strength over commercial grade aluminum honeycomb. PAMG 5052 honeycomb is made from 5052 aluminum alloy foil and meets all the requirements of AMS(MIL)-C-7438. PAMG 5052 honeycomb is available with Plascore’s organo-metallic XR1 coating or phosphoric acid anodized PA3 coating.

- Available with XR1 or PA3 coating
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant
- Fungi resistant

PAMG 5056 Aluminum Honeycomb
PAMG 5056 aerospace grade aluminum honeycomb is a lightweight core material which offers superior strength over 5052 and commercial grade aluminum honeycomb. PAMG 5056 honeycomb is made from 5056 aluminum alloy foil and meets all the requirements of AMS(MIL)-C-7438. PAMG 5052 honeycomb is available with Plascore’s organo-metallic XR1 coating or phosphoric acid anodized PA3 coating.

- Available with XR1 or PA3 coating
- High strength to weight ratio
- Elevated use temperatures
- High thermal conductivity
- Excellent moisture and corrosion resistance
- Flame resistant
- Fungi resistant
## PN2 Mechanical Properties

<table>
<thead>
<tr>
<th>PLASCORE® Honeycomb Designation</th>
<th>DENSITY</th>
<th>COMPRESSIVE (BARE) STRENGTH</th>
<th>PLATE SHEAR “L” DIRECTION</th>
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## PK2 Typical Mechanical Properties

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<tr>
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## PAMG 5052 Typical Mechanical Properties

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<td>FOIL GAUGE (in)</td>
<td>NOMINAL DENSITY (PCF)</td>
<td>STRENGTH (psi)</td>
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## PAMG 5056 Typical Mechanical Properties

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Manufacturing Competencies

Lean manufacturing principles are employed throughout manufacturing, administration, and validation to reduce lead times while assuring optimum quality.

Plascore capabilities include adhesive development, precision cutting, slotting, chamfering, expanding, and automated assembly. Tight tolerances and unique profiles are achieved through engineering expertise.

Quality Assurance – AS9100 Certified

Plascore is AS9100 registered and has a range of testing capabilities. Our on-site validation lab is experienced in providing timely and accurate first article submissions to aerospace customers.

Mechanical testing confirms cell size, density, compression and shear values are within specification. Certification documents are included upon request for validation and tracking purposes.

Machined Core

Plascore has the in-house capabilities to deliver custom parts to print with the highest level of accountability and quality.

With the addition of a 40,000 ft² building, we can offer 5-axis CNC machining, roll forming, heat forming, splicing, cut to size, high density cores, and more according to your specific honeycomb needs.

Energy Absorption Products

Plascore offers lightweight energy absorbing honeycomb products built to specification. Aluminum honeycomb is an ideal energy absorber for aerospace applications where weight and envelope constraints are critical.
Plascore Supports Numerous Customers
According to Aerospace Industry Specifications

Global Aerospace Presence

Aluminum Honeycomb Core
- AAR
- AIDC
- Airbus
- Alliance Space Systems
- Applied Aerospace
- ATK Space Systems
- Bell Helicopter

Aramid Fiber Honeycomb Core
- AAR
- Airbus
- B/E Aerospace
- Bell Helicopter
- Boeing Helicopter
- Bombardier
- Embraer
- Bombardier
- Boeing Satellite Systems
- Kaman Aerospace
- SpaceX
- Teklam
- UTC Aerospace Systems
- Zodiac
Honeycomb core is specified as follows:

**Trade Name - Cell Size - Density - Cell Configuration**
- **PN2** - 3/16 - 3.0 - OV
  - Designates aerospace grade Nomex®
  - The nominal density in pounds per cubic foot
  - Over expanded cells

- **PK2** - 3/16 - 3.0 - HS
  - Designates aerospace grade Kevlar®
  - Higher shear property configuration

**Trade Name - Corrosion Coating - Density - Cell Size**
- **PAMG** - XR1 - 3.0 - 3/8 - 20 - P - 5052
  - Designates aerospace grade aluminum
  - Nominal density in pounds per cubic foot
  - Nominal foil gauge in ten-thousands inch
  - XR1 for XR1 corrosion coating
  - Cell walls perforated (P); not perforated (N)
  - 5052 Alloy of the foil

- **PA3** for phosphoric acid anodized coating

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