PK2 Kevlar® N636 Para-Aramid Fiber Honeycomb

Description:
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) impregnated with a heat resistant phenolic resin. This core material exhibits improved performance characteristics over Nomex® and Korex® in the areas of weight, strength, stiffness and fatigue.

Features:
- Up to 40% higher properties than comparable density Nomex® honeycomb
- Extremely high strength to weight ratio
- Excellent thermal and moisture stability
- Improved shear strength and modulus
- Conforms to stringent smoke, toxicity and flammability standards
- High toughness
- Long shelf life. The mechanical properties referenced are maintained for 10 years minimum if not exposed to moisture, weather or any normal hazard.

Applications:
PK2 honeycomb is a high performance non-metallic core which can replace fiberglass and Nomex® honeycomb core materials to achieve significant weight reductions without sacrificing performance in most applications. PK2 honeycomb uses include boat decks, aircraft galleys, flooring, partitions, aircraft leading and trailing edges, radomes, flaps, access panels and doors.

Availability:
PK2 honeycomb is available in sheets, blocks or cut to size pieces in regular hexagonal cell configurations. Selected densities available in high shear (HS) configuration for higher stiffness.

Cell Sizes: 1/8" - 3/16"
Densities: 2.0 pcf - 6.0 pcf
Sheet “Ribbon” (L): 48" typical
Sheet “Transverse” (W): 96" typical

Tolerances:
Length: + 3", - 0"
Width: + 6", - 0"
Thickness: ± .006" (under 2" thick)
Density: ± 10%
Cell Size: ± 10%

NOTE: Special dimensions, sizes, tolerances and specifications can be provided upon request.

Plascore, Inc. employs a quality management system in the manufacture of honeycomb core and composite panels that is ISO 9001:2000 certified.
PK2 Kevlar® honeycomb is specified as follows:

Material - Cell Size - Density - Cell Configuration

**Example:**

PK2 - 3/16 - 3.0 - HS

Designates aerospace grade Kevlar®

- **Cell size in inches**
- **The nominal density in pounds per cubic foot**
- **Higher shear property configuration**

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**PK2 Mechanical Properties***

<table>
<thead>
<tr>
<th>PLASCORE® Honeycomb Designation</th>
<th>DENSITY</th>
<th>COMRESSIVE (BARE STRENGTH)</th>
<th>PLATE SHEAR “L” DIRECTION</th>
<th>PLATE SHEAR “W” DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/ft³</td>
<td>kg/m²</td>
<td>psi</td>
<td>MPa</td>
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<tr>
<td>PK2-1/8-2.5</td>
<td>2.5</td>
<td>40.0</td>
<td>225</td>
<td>1.55</td>
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<td>PK2-1/8-3.0</td>
<td>3.0</td>
<td>48.1</td>
<td>315</td>
<td>2.17</td>
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<tr>
<td>PK2-1/8-3.0 HS</td>
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<td>48.1</td>
<td>305</td>
<td>2.10</td>
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<tr>
<td>PK2-1/8-4.5 HS</td>
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<td>72.1</td>
<td>610</td>
<td>4.21</td>
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<td>1000</td>
<td>6.89</td>
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<td>1.48</td>
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<td>32.0</td>
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<td>1.03</td>
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<tr>
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<td>48.1</td>
<td>320</td>
<td>2.21</td>
</tr>
</tbody>
</table>

* Preliminary or estimated values based on limited testing per MIL-STD-401 at room temperature.

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**Note:** ®Kevlar and ®Nomex are registered trademarks of E.I. DuPont de Nemours, Wilmington, Delaware.

**Plascore, Inc., employs a quality management system that is Nadcap, AS9100, ISO 9001 and ISO 14001 certified.**

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