Description

Hexcel manufactures two types of nonmetallic HexWeb® Flex-Core®:

HexWeb® HRP® – Fiberglass cloth reinforced with a high temperature phenolic resin. This product provides good retention of strength for temperatures up to 350°F.

HexWeb® HRH-10® – NOMEX® aramid paper reinforced with a high temperature phenolic resin. This product provides good retention of strength for temperatures up to 300°F.

Features

- Specifically designed for formability (cold form)
- Retains mechanical properties in the curved condition
- Offer cost savings for curved panels

Applications

The HexWeb® Nonmetallic Flex-Core® cell configuration as opposed to the standard hexagonal cell honeycomb provides for exceptional formability into compound curvatures with reduced anticlastic curvature and controlled buckling of the cell wells. When formed into tight radii, HexWeb® Nonmetallic Flex-Core® provides higher shear strengths than comparable hexagonal cores of equivalent density. HexWeb® Nonmetallic Flex-Core® applications exist whenever extreme curvature dictates a flexible cell geometry, e.g. radomes, ducts, leading edges of wings and stabilizers.

Standard Dimensions

HexWeb® HRP® and HexWeb® HRH-10® Flex-Core® are available in two standard panel sizes.

<table>
<thead>
<tr>
<th>For HRP:</th>
<th>For HRH-10:</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>W</td>
</tr>
<tr>
<td>42 in. ± 1 in.</td>
<td>48 in. ± 1 in.</td>
</tr>
<tr>
<td>42 in. ± 1 in.</td>
<td>72 in. ± 1 in.</td>
</tr>
</tbody>
</table>

Other L, W, and T dimensions may be available on request. One block minimum buy may apply.

Thickness Tolerance

Tolerances on cut thickness are as follows:

- T Min to 1.500 in. tolerance will be ± 0.006 in.
- 1.501 in. to 3.000 in. tolerance will be ± 0.010 in.
- 3.001 and over tolerance will be ± 0.062 in.

Tighter tolerances may be available upon special request.
Type Designation

HexWeb® Nonmetallic Flex-Core® is designated as follows:

Material – Cell size – Density

Example: HRH-10 – F50 – 3.5

Where:

HRH-10 – refers to the type of material
F50 – refers to the cell size in cells per lineal foot in the W direction
3.5 – refers to the density in pounds per cubic foot

Dimensional Nomenclature

- T = Thickness, or cell depth
- L = Ribbon direction, or width
- W = Long direction, or direction perpendicular to the ribbon

Availability

HexWeb® Nonmetallic Flex-Core® is shipped as follows:

SHIPPING TERMS: FCA Hexcel, Casa Grande, AZ, USA (Incoterms 2010)
MATERIAL TITLE TRANSFER: Hexcel, Casa Grande, AZ, USA

Lead times will vary with the particular core type selected.
The information in this Data Sheet is subject to change without notice.
Contact your nearest Hexcel Sales Office for delivery information.
### Mechanical Properties

Test per AMS-STD-401 at 0.500 inch thickness.

<table>
<thead>
<tr>
<th>Hexcel Honeycomb Designation</th>
<th>Compressive</th>
<th>Plate Shear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bare</td>
<td>Stabilized</td>
</tr>
<tr>
<td></td>
<td>Strength psi</td>
<td>Strength psi</td>
</tr>
<tr>
<td></td>
<td>typ</td>
<td>min</td>
</tr>
<tr>
<td>HRP/F35 – 2.5</td>
<td>120</td>
<td>90</td>
</tr>
<tr>
<td>HRP/F35 – 3.5</td>
<td>320</td>
<td>245</td>
</tr>
<tr>
<td>HRP/F35 – 4.5</td>
<td>440</td>
<td>340</td>
</tr>
<tr>
<td>HRP/F50 – 3.5</td>
<td>315</td>
<td>225</td>
</tr>
<tr>
<td>HRP/F50 – 4.5</td>
<td>420</td>
<td>340</td>
</tr>
<tr>
<td>HRP/F50 – 5.5</td>
<td>700</td>
<td>540</td>
</tr>
<tr>
<td>HRH-10/F35 – 2.5</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>HRH-10/F35 – 3.5</td>
<td>410</td>
<td>320</td>
</tr>
<tr>
<td>HRH-10/F35 – 4.5</td>
<td>580</td>
<td>440</td>
</tr>
<tr>
<td>HRH-10/F50 – 3.5</td>
<td>380</td>
<td>300</td>
</tr>
<tr>
<td>HRH-10/F50 – 4.5</td>
<td>565</td>
<td>450</td>
</tr>
<tr>
<td>HRH-10/F50 – 5.0</td>
<td>670</td>
<td>520</td>
</tr>
<tr>
<td>HRH-10/F50 – 5.5</td>
<td>800</td>
<td>620</td>
</tr>
</tbody>
</table>

Other cell sizes, densities, and dimensions may be available on special request. Please contact your nearest Hexcel Sales Office for additional information. One block minimum buy may apply.

### Specifications

Density Tolerance – Standard tolerance is ±10%. HRH-10 Flex-Core® meets the requirements of SAE specification AMS3713.
Important

Hexcel Corporation believes, in good faith, that the technical data and other information provided herein is materially accurate as of the date this document is prepared. Hexcel reserves the right to modify such information at any time. The performance values in this data sheet are considered representative but do not and should not constitute specification minima. The only obligations of Hexcel, including warranties, if any, will be set forth in a contract signed by Hexcel or in Hexcel's then current standard Terms and Conditions of Sale as set forth on the back of Hexcel's Order Acknowledgement.

For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and other demanding industries. Our comprehensive product range includes:

- Carbon Fiber
- Reinforced Fabrics
- Carbon, Glass, Aramid and Hybrid Prepregs
- RTM Materials
- Engineered Core
- HexTOOL® composite tooling material
- Structural Film Adhesives
- Honeycomb Cores

For US quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please click here: [http://www.hexcel.com/contact/salesoffices](http://www.hexcel.com/contact/salesoffices).