

## Hexcel® HexWeb® HRP/F50 - 5.5 Nonmetallic Flex-Core Honeycomb

Category : Ceramic , Glass , Glass Fiber , Other Engineering Material , Composite Fibers , Polymer , Thermoset , Phenolic

### Material Notes:

Designation: Material/Cell Size (cells per lineal foot in W direction)-DensityHexcel manufactures two types of nonmetallic reinforced plastic HexWeb® Flex-Core®: HexWeb® HRP - Fiberglasses 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; Retains mechanical properties in the curved condition; Offers 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 cell walls. 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 wherever extreme curvature dictates a flexible cell geometry, e.g. radomes, ducts, leading edges of wings and stabilizers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hexcel-HexWeb-HRPF50-55-Nonmetallic-Flex-Core-Honeycomb.php](http://www.lookpolymers.com/polymer_Hexcel-HexWeb-HRPF50-55-Nonmetallic-Flex-Core-Honeycomb.php)

Physical Properties	Metric	English	Comments
Density	0.0881 g/cc	0.00318 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	>= 3.72 MPa	>= 540 psi	Bare, min
	>= 4.69 MPa	>= 680 psi	Stabilized, min
	4.83 MPa	700 psi	Bare, typ
	5.52 MPa	800 psi	Stabilized, typ
Shear Modulus	0.124 GPa	18.0 ksi	Plate Shear, W Direction, typ
	0.276 GPa	40.0 ksi	Plate Shear, L Direction, typ
Shear Strength	>= 1.24 MPa	>= 180 psi	Plate Shear, W Direction, min
	1.62 MPa	235 psi	Plate Shear, W Direction, typ
	>= 2.28 MPa	>= 330 psi	Plate Shear, L Direction, min
	3.03 MPa	440 psi	Plate Shear, L Direction, typ

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	177 °C	350 °F	

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