



HexWeb® HRP and HTP

Fiberglass/Phenolic Honeycomb

Product Data

Description

HexWeb® HRP® is a fabric reinforced honeycomb in which a heat-resistant phenolic resin is used both for initial and final impregnations. The product was developed for use at service temperatures up to 350° F. However, it is also well suited for short exposures at high temperatures. The HexWeb® HRP-series honeycomb is available in the standard hexagonal configuration, as well as in two formable geometries – OX-Core® and Flex-Core®.

Features

- High strength up to 350°
- Good insulation properties
- Good dielectric properties
- Good bonding surface
- Readily heat formed

Applications

HexWeb® HRP/HTP has proven to be an excellent core material for radomes, aircraft structural parts and fairings, heat shields, and other assemblies that see elevated temperature service.

Custom Processing

HexWeb® HRP/HTP materials can be provided machined or formed ready for bonding. This can include edge chamfering, simple and complex taper cuts and other special machined configurations as well as precurved core formed to cylindrical or compound curvatures. Contact your nearest Hexcel Sales Office for additional information.

Standard Dimensions

HexWeb® HRP/HTP honeycomb is available in the following standard sizes of the hexagonal and overexpanded configurations.

	L	W	T Min
HRP/HTP Hexagonal	36 in. + 1 in. – 2 in.	96 in. ± 6 in.	0.125 in.
HRP Overexpanded	22 in. ± 2 in.	96 in. ± 6 in.	0.125 in.

Thickness Tolerance

Standard tolerances on cut thickness are as follow:

0.125 in. to 2.000 in. tolerance will be ± 0.006 in.

2.001 in. to 4.000 in. tolerance will be ± 0.010 in.

4.001 in. and over tolerance will be ± 0.062 in.



Type Designation

HexWeb® HRP/HTP honeycomb is designated as follows:

Material – Cell size – Density

Example: HRP – 3/16 – 4.0

Where:

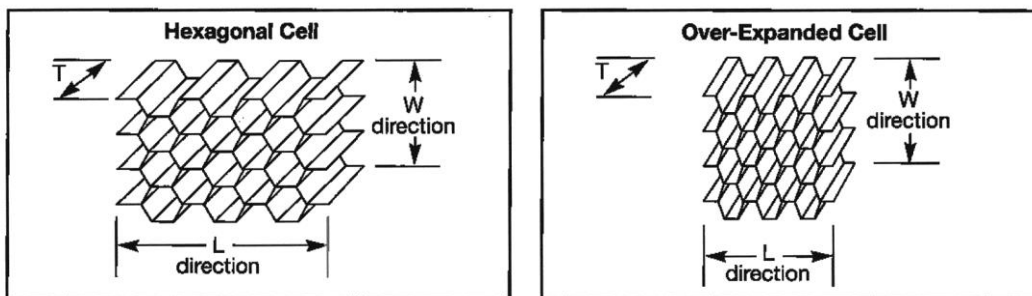
HRP – designates honeycomb type

3/16 – is the cell size in inches

4.0 – is the nominal 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



Images for explanation only and do not represent actual appearance.

Availability

HexWeb® HRP/HTP 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

Typical Values Represented Below

The following mechanical properties apply to the various HRP core types when tested per AMS-STD 401 at 0.500 inch thickness and meet the requirements of MIL-C-8073 Class II, AMS3715, and most airframe manufacturers' specifications.

Hexcel Honeycomb Designation Material-Cell-Density Hexagonal	Compressive					Plate Shear					
	Bare		Stabilized			L Direction			W Direction		
	Strength psi		Strength psi		Modulus ksi	Strength psi		Modulus ksi	Strength psi		Modulus ksi
	typ	min	typ	min	typ	typ	min	typ	typ	min	typ
HRP – 3/16 – 4.0	480	400	590	480	57	310	210	13.0	160	130	6.5
HRP – 3/16 – 5.5	800	620	900	750	95	490	390	19.0	265	200	11.0
HRP – 3/16 – 8.0	1350	1100	1530	1280	164	750	600	33.0	460	370	19.0
HRP – 3/16 – 12.0	2300	1800	2520	1960	260	985	815	44.0	675	525	28.0
HRP – 1/4 – 3.5	390	280	455	400	46	250	180	10.0	125	100	5.0
HRP – 1/4 – 4.5	585	480	640	560	70	355	280	15.0	200	155	8.0
HRP – 1/4 – 5.0	680	530	820	660	84	400	305	20.0	230	180	10.0
HRP – 1/4 – 6.5	1025	800	1180	920	120	580	450	23.0	330	260	13.0
HRP – 3/8 – 3.2	315	260	390	300	38	205	160	11.0	110	85	5.0
HRP – 3/8 – 3.5	340	290	410	325	41	210	165	11.3	120	95	5.3
HRP – 3/8 – 4.5	550	450	690	530	65	325	260	14.0	190	150	8.0
HRP – 3/8 – 6.0	830	650	1000	800	100	470	400	23.0	280	210	11.8
OX-Core HRP/OX – 1/4 – 4.5	560	480	675	540	43	250	200	7.0	260	210	15.0

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.



The following mechanical properties apply to the various HTP core types when tested per AMS-STD 401 at 0.500 inch thickness and meet the requirements of MIL-C-8073 Class II, AMS3715, and most airframe manufacturers' specifications.

Hexcel Honeycomb Designation Material-Cell-Density Hexagonal	Compressive					Plate Shear					
	Bare		Stabilized			L Direction			W Direction		
	Strength psi		Strength psi		Modulus ksi	Strength psi		Modulus ksi	Strength psi		Modulus ksi
	typ	min	typ	min	typ	typ	min	typ	typ	min	typ
HTP – 3/16 – 4.0	480	400	590	480	57	310	210	13.0	160	130	6.5
HTP – 3/16 – 5.5	800	620	900	750	95	490	390	19.0	265	200	11.0
HTP – 3/16 – 8.0	1350	1100	1530	1280	164	750	600	33.0	460	370	19.0
HTP-3/8-3.2	315	260	390	300	38	205	160	11.0	110	85	5.0
HTP-3/8-3.5	340	290	410	325	41	210	165	11.3	120	95	5.3
HTP-3/8-4.5	550	450	690	530	65	325	260	14.0	190	150	8.0
HTP-3/8-6.0	830	650	1000	800	100	470	400	23.0	280	210	11.8

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.

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>.

