



HexWeb® HRP

Fiberglass/Phenolic Honeycomb

Product Data

Description

HexWeb® HRP is a glass fabric reinforced honeycomb in which a heat-resistant phenolic resin is used both for initial and final impregnations. This 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 the two formable geometries—OX-Core® and Flex-Core®.

Features

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

Applications

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

	L	W	Block T	T min
Hexagonal	36 in. + 1 in. – 2 in.	96 in. ± 6 in.	13 – 22 in.	0.125 in.
Overexpanded	22 in. ± 2 in.	96 in. ± 6 in.	13 – 18 in.	0.125 in.

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

Thickness Tolerance

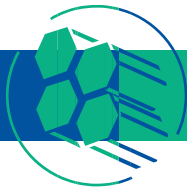
Tolerances on cut thickness are as follows:

- 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 ± 0.065 in.

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Type Designation

HexWeb® HRP 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

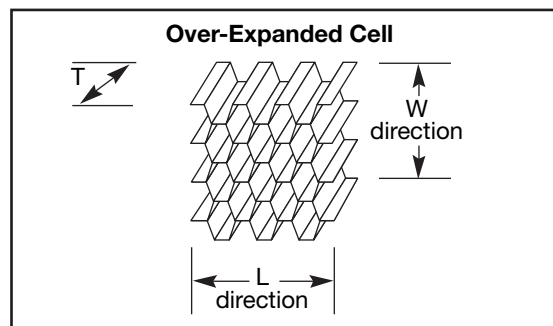
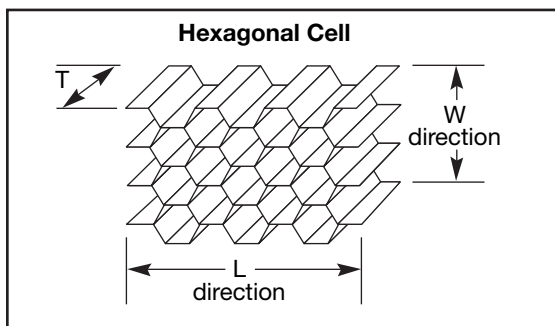
4.0 – is the nominal density in pounds per cubic foot

Dimensional Nomenclature

T = Thickness, or cell depth

L = Ribbon direction, or width

W = Long direction, or direction perpendicular to the ribbon



Availability

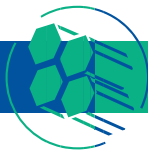
HexWeb® HRP will be shipped F.O.B. Casa Grande, Arizona. HTP will be shipped F.O.B. Miami, Florida. Lead times will vary with particular core types selected. Contact your nearest Hexcel Sales Office for delivery information.

Mechanical Properties

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

Hexcel Honeycomb Designation Material – Cell – Density	Compressive					Plate Shear					
	Bare		Stabilized			L Direction			W Direction		
	Strength psi		Strength psi		Modulus ksi	Strength psi		Modulus ksi	Strength psi		Modulus ksi
Hexagonal	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 – 7.0	1150	800	1300	1040	136	650	510	30.0	370	290	14.0
HRP – 3/16 – 8.0	1350	1100	1530	1280	164	750	600	33.0	460	370	19.0
HRP – 3/16 – 12.0 or HTP – 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 – 2.2	165	125	180	145	13	120	90	6.0	60	45	3.0
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
HRP – 3/8 – 8.0	1400	1000	1540	1180	150	700	540	27.0	450	350	18.0
OX-Core											
HRP/OX – 1/4 – 4.5	560	480	675	540	43	250	200	7.0	260	210	15.0
HRP/OX – 1/4 – 5.5	775	580	890	670	65	300	230	10.0	330	255	18.0
HRP/OX – 1/4 – 7.0	1150	850	1230	990	84	395	310	14.0	450	350	20.0
HRP/OX – 3/8 – 3.2	340	260	390	300	32	140	110	4.5	150	120	9.0
HRP/OX – 3/8 – 5.5	700	580	820	615	60	270	210	10.0	355	275	17.0

Bold print indicates readily available material.



Important

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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
- RTM Materials
- Honeycomb Cores
- Continuous Fiber Reinforced Thermoplastics
- Carbon, Glass, Aramid and Hybrid Prepregs
- Structural Film Adhesives
- Honeycomb Sandwich Panels
- Special Process Honeycombs
- Reinforced Fabrics

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>.