HexWeb® CFC™-20

Composite Flooring Honeycomb Core

Product Data

Description

HexWeb® CFC™-20 is manufactured from NOMEX® aramid fiber sheets. A thermosetting adhesive is used to bond these sheets at the nodes and, after expanding to the hexagonal configuration, the block is dipped in phenolic resin. After curing the resin, slices are cut to the desired thickness.

Features

- Specifically designed for aircraft flooring applications
- Superior properties and performance over balsa and foam core materials
- Proven durability in extensive flooring tests
- Significant weight advantage over balsa and foam core materials
- Exceeds all FAA safety requirements
- Excellent property retention at 350°F
- Moisture and fungus resistant

Applications

HexWeb® CFC™-20 honeycomb core was specifically developed to provide a tough, lightweight core material for use in aircraft flooring systems. A range of product densities are available to fit a wide variety of loading requirements.

The core material when bonded to metallic or nonmetallic facings provides a flooring panel sheet which may be cut or contoured to fit any aircraft flooring module.

Standard Dimensions

Contact your nearest Hexcel Sales Office for standard sizes and tolerances. HexWeb® CFC™-20 core sheets are available either trimmed or untrimmed.

Type Designation

HexWeb® CFC™-20 honeycomb is designated as follows:

Material – Cell Size – Density

Example: HEXWEB CFC-20 – 1/8 – 5.0

Where:

HexWeb® CFC™-20 – designates honeycomb type

1/8 – is the cell size in inches

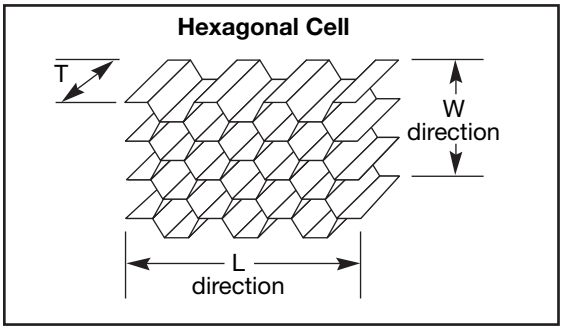
5.0 – is the nominal density in pounds per cubic foot

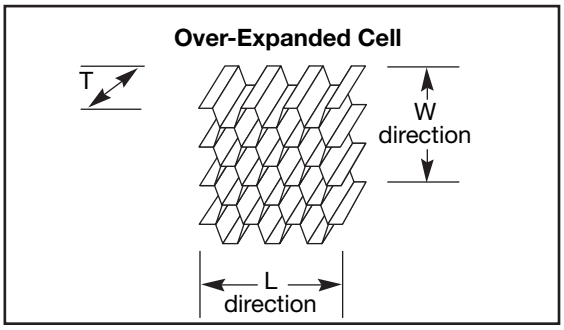
Dimensional Nomenclature

T = Thickness, or cell depth

L = Ribbon direction, or width

W = Long direction, or direction perpendicular to the ribbon





Availability

HexWeb® CFC™-20 will be shipped F.O.B. Casa Grande, Arizona. Lead times will vary with particular core types selected. Contact your nearest Hexcel Sales Office for delivery information.

Specifications

General – HexWeb® CFC™-20 will be supplied in flat expanded sheets free from foreign contaminates. The material will be ready for bonding.

Configuration – The cell size of hexagonal core will give the nominal cell dimensions in inches across the flats (nodes) of the cell. Cell size determination will be made by measuring the length of 10 consecutive cells in 6 random locations and averaging the results. Double laps will be permitted as long as the core blankets are within density tolerance. Unbonded nodes will be permitted to the extent that no opening larger than three times the nominal cell size is created and the minimum mechanical properties are obtainable.

Density – The tolerance on honeycomb density when measured on a minimum of 100 cubic inches of core will be ± 10%.

Flame Retardance – HexWeb® CFC™-20 will meet the "self extinguishing" classification of FAA Air Crash Worthiness Rules and Regulations Section 25.853.

Water Migration – HexWeb® CFC™-20 does not exceed one cell water migration in 24 hours when tested per MIL-STD-401B.

Mechanical Properties – The table below lists the HexWeb® CFC™-20 product line and mechanical properties when tested per MIL-STD-401B using 0.500 inch core thickness. The typical values represent the mean average of a relatively large number of test values obtained from many blocks of honeycomb. The preliminary values marked with a "p" are the results from a very limited amount of testing. Minimum properties are guaranteed minimum values for the average of five specimens of honeycomb when tested at ambient conditions per MIL-STD-401B.

Mechanical Properties of HexWeb® CFC™-20 at Room Temperature

p = Preliminary value obtained from limited testing.

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
	typ	min	typ	min	typ	typ	min	typ	typ	min	typ
CFC-20 – 1/8 – 5.0	700	510	745	550	–	355p	270p	12.0p	205p	160p	6.5p
CFC-20 – 1/8 – 6.0	965p	725p	1040p	780p	–	390p	290p	13.5p	240p	180p	8.0p
CFC-20 – 1/8 – 9.0	1800	1350	2050	1450	–	550	450	20.0	400	320	12.0p
CFC-20 – 1/8 – 11.0	2600	2200	2700	2300	–	640p	510p	28.0p	450p	360p	16.0p
CFC-20 – 5/32 – 5.0	550	435	600	470	–	360p	280p	11.0p	180p	140p	5.0p
CFC-20 – 5/32 – 9.0	1700	1300	1875	1390	–	525p	410p	16.0p	285p	220p	9.5p

HexWeb® CFC™-20 *Product Data*

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
- 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**.