Hexcel® HexWeb® CR III 1/16-5056-.001 Corrosion Resistant Specification Grade Aluminum Honeycomb

Category : Metal , Metal Foam, Mesh, or Honeycomb , Nonferrous Metal , Aluminum Alloy , 5000 Series Aluminum Alloy

Material Notes:

Grade is designated as "Cell Size-Alloy-Foil Gauge."5052 and 5056 expanded aerospace grade aluminum honeycomb materials are available in a wide selection of cell sizes and foil gauges. The HexWeb® CR III coating has been developed to offer superior protection for aluminum honeycomb exposed to corrosive environments. The HexWeb® CR III system offers a clear protective film that interacts with the aluminum surface forming a stable, tightly adherent bond. The coating is primarily in an organo-metallic polymer type that differs from the normal conversion-type corrosion protective coatings.Hexcel expanded honeycomb is manufactured by bonding together sheets of aluminum foil, then expanding to form a cellular honeycomb configuration. Resulting panels have sharp, clean cell walls, are essentially burr-free, and are suitable for high-quality core-to-facing bond.Aluminum HexWeb® CR III Specification Grade honeycomb materials are predominantly used in sandwich structures to meet design requirements for highly engineered structural components. As a structural core material it finds applications in all types of aerospace vehicles and supporting equipment where sandwich structure offers rigid panels of minimum weight, aerodynamic smooth surfaces, and high fatigue resistance. The same structural properties are also used for commercial applications such as tools, snow and water skis, bulkheads, and floors. Other nonstructural uses are direction air/fluid flow control, RF shielding, and energy absorption.

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http://www.lookpolymers.com/polymer_Hexcel-HexWeb-CR-III-116-5056-001-Corrosion-Resistant-Specification-Grade-Aluminum-Honeycomb.php

Physical Properties	Metric	English	Comments
Density	0.147 g/cc	0.00532 lb/in ³	Nominal
Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	>= 8.96 MPa	>= 1300 psi	Bare, min, preliminary
	>= 9.65 MPa	>= 1400 psi	Stabilized, min, preliminary
	11.7 MPa	1700 psi	Bare, typ, preliminary
	12.4 MPa	1800 psi	Stabilized, typ, preliminary
Compressive Modulus	3.45 GPa	500 ksi	Stabilized, typ, preliminary
Shear Modulus	0.345 GPa	50.0 ksi	Plate Shear, W Direction, typ, preliminary
	0.758 GPa	110 ksi	Plate Shear, L Direction, typ, preliminary
Shear Strength	>= 3.17 MPa	>= 460 psi	Plate Shear, W Direction, min, preliminary
	4.14 MPa	600 psi	Plate Shear, W Direction, typ, preliminary



Mechanical Properties	>= 5.24 MPa	s= 760 psi	Plate Shear, L Direction, min,
	Metric	English	Comments,
	6.76 MPa	980 psi	Plate Shear, L Direction, typ, preliminary

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