

Product Data Sheet: CarbonFoam PE80/110/160



CarbonFoam PE80(110/160) is a lightweight, closed-cell, thermoplastic and easily recyclable polymer foam that has very good mechanical properties while maintaining excellent price/performance ratio. PE80 works perfectly as a core material in a wide variety of **lightweight sandwich structures**. PE80(110/160)'s low resin absorption makes for lower sandwich structure weight which makes it perfect for all structures subjected to static and dynamic loads, like wind mill nacelles and boat elements not subjected to high

CarbonFoam PE80(110/160) has outstanding resistance to fatigue, is chemically stable, is resistant to UV and negligible water absorption. Polymer foam has excellent thermal stability during high temperature processing and has no after expansion or out-gassing during post

CHARACTERISTICS

- ◆ Easy process with resins
- ◆ Process temp. up to 300°F (149°C)
- ◆ Negligible water absorption
- ◆ Consistent material properties
- ◆ Recyclable
- ◆ Excellent fatigue strength
- ◆ Low resin absorption
- ◆ Lightweight foam sheets
- ◆ High chemical stability
- ◆ Great skin-to-core bond adhesion

INDUSTRIES

- ◆ Marine: Transoms, stingers, superstructures, decks, hulls, bulkheads, etc.
- ◆ Industrial: Containers, local reinforcements, x-ray tables, covers, sporting goods, etc.
- ◆ Wind Power: Share webs and shells for blades, nacelles

PROCESSING

- ◆ Adhesive bonding
- ◆ Compression Molding
- ◆ Thermoforming
- ◆ Contact molding
- ◆ Vacuum Infusion
- ◆ Resin Infusion
- ◆ Resin Injection

All tests carried out by independent laboratory. This information is provided in good faith and is subject to modifications without prior notification. It does not constitute a commitment, neither a contractual document. Carbon-Core Corp will not assume any liability from use or misuse of data presented herein. Assessment of suitability is the responsibility of end user only.

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Tests		PE 80	PE 110	PE 160
Nominal Density	N/A	80 kg/m ³	110 kg/m ³	160 kg/m ³
Compressive Strength	ASTM D1621	0.8 MPa	1.3 MPa	2.5 MPa
Compressive Modulus	ASTM D1621	24 MPa	80 MPa	130 MPa
Shear Strength	ASTM C273	0.66 MPa	1 MPa	1.5 MPa
Shear Modulus	ASTM C273	10.5 MPa	23 MPa	40 MPa
Shear Elongation	ASTM C273	35%	20%	15%
Closed Cell Content	ASTM D2856	>95%		
Water Absorption	ASTM C272	0.02 kg/m ²		
Initial Thermal Conductivity at 10°C (50°F)	ASTM C518	0.024 W/m·K		
Heat Distortion Temperature	DIN 53424	120°C		
Service Temperature	N/A	-180 to 90°C		
Color	N/A	Green		
Dimensions (W x L x H)	N/A	1200x2400x(±5)mm		
Standard Thickness	N/A	6~200 mm		

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