

Fiberglass/Foam Sandwich Panels



ACP's Fiberglass/Foam Sandwich Panels are manufactured by bonding 8-harness satin weave fiberglass prepreg to each side of a 6 PCF density foam core. They are cured with high temperature and under pressure, resulting in fully consolidated fiberglass skins that are completely bonded to the foam core. The resulting constructed panel offers a high strength-to-weight ratio and is ideal for applications where maximum stiffness and crush resistance are essential.

Physical Properties

Core Material	6.0 PCF Polyurethane Foam "Structural Foam"
Skin Material	Fiberglass Prepreg Style 7781
Prepreg Resin Content	44%

The below technical information is for the stand alone raw materials, not the constructed panel.

Prepreg Neat Resin Properties

Specific Gravity	1.335
Tg dry	250°F
Moisture Absorption	9.4%
Linear CTE	293 x 10 ⁻⁵ /in/in/°F
Tensile Strength	11.6 ksi
Tensile Modulus	0.47 msi
Tensile Strain	5.2%
Fracture Toughness	1.50 ksi √in
Strain Energy Release Rate	4.18 in-lb/in ²

Polyurethane Foam "Structural Foam" Properties

Density	6.0 PCF
Compressive Strength to rise	154 psi @ 75°F
Compressive Strength ⊥ to rise	139 psi @ 75°F
Compressive Strength to rise	4275 psi @ 75°F
Compressive Strength ⊥ to rise	3437 psi @ 75°F
Compressive Strength to rise	182 psi

All the information contained in these properties is believed to be reliable. It is intended for comparison purposes only as each manufactured lot will exhibit variations. The user should evaluate the suitability of each product for their application. We cannot anticipate the variations in all end use and we make no warranties and assume no liability in connection with the use of this information.

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Polyurethane Foam "Structural Foam" Properties

Compressive Strength \perp to rise	174 psi
Tensile Modulus \parallel to rise	5949 psi
Tensile Modulus \perp to rise	5662 psi
Shear Strength \parallel to rise	116 psi
Shear Strength \perp to rise	116 psi
Shear Modulus \parallel to rise	4133 psi
Shear Modulus \perp to rise	1457 psi
Flexural Strength \parallel to rise	226 psi
Flexural Strength \perp to rise	210 psi
Flexural Modulus \parallel to rise	5944 psi
Flexural Modulus \perp to rise	5421 psi
CTE	$\sim 3.4 \times 10^{-5}$ in/in/ $^{\circ}$ F
Closed Cell Content	95.6%
Hardness, Shore-D	11.1
Water Absorption	0.17 lbs/ft ²
Specific Heat @ 25 $^{\circ}$ C	0.353 BTU/lb- $^{\circ}$ F
Heat Combustion	11706 BTU/lb
Thermal Conductivity	0.205 BTU*in/ft ² * $^{\circ}$ F*h

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