

FRP (Fiber Reinforced Plastic)



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PHYSICAL PROPERTIES

FRP is a glass fiber laminate consisting of a uniform mat of high strength glass fibers imbedded in an organic resin. The compound structure is heat cured to a solid material, which is lightweight, strong, and shatter-resistant, with excellent physical properties. It is commonly used as wall and ceiling panels. FRP meets American FDA and Canada Agri-Food requirements for direct food contact.

Property	Method	Unit	Nominal Value*
Density	ASTM D-792	lbs/ft ³	n/a
Tensile strength at yield	ASTM D-638	psi	7000
Tensile modulus	ASTM D-638	psi	9.3 x 10(5)s
Elongation at yield	ASTM D-638	%	1.8
Elongation at break	ASTM D-638	%	n/a
Tensile impact	DIN 53448	ft-lbs/in ²	n/a
Flexural modulus	ASTM D-790	psi	6.0 x 10(5)s
Flexural strength	ASTM D-790	psi	17,000
Izod impact	ASTM D-4020	ft-lbs/in ²	7
Compressive modulus	ASTM D-695	psi	n/a
Compressive deformation	ASTM D-621	% at 1000 psi	n/a
Barcol Hardness	ASTM D-2583	Avg.	30
Static friction	ASTM D-1894	Unitless	n/a
Dynamic friction	ASTM D-1894	Unitless	n/a
Impact brittleness temperature	ASTM D-746	°F	n/a
Melting point	ASTM D-3417	°F	n/a
Coefficient of linear thermal expansion	ASTM D-696	in/in/°F	2.22 x 10 ⁻⁵
Heat deflection temperature, 66 psi	ASTM D-648	°F	n/a
Water absorption 24hrs.	ASTM D-570	%	0.17
Flash ignition temperature	ASTM D-1929	°C	400
Self ignition temperature	ASTM D-1929	°C	430
Flame spread	ASTM E-84	Unitless	<150
Smoke generation	ASTM E-84	Unitless	<450

*All values are determined on specimens prepared according to ASTM 1248-84 "Standard Specifications for Polyethylene Plastic Molding and Extrusion Materials". Nominal values should not be interpreted as specifications.

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