

Product Description

Carbon Fiber reinforced epoxy molding compound

General

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia
Filler / Reinforcement	• 12K PAN Carbon Fiber	• Nominal 55% w/w	• Nominal 1" (25 mm) Length
Features	• Fatigue Resistance • High Strength	• High Stiffness • Shelf Life 6 months @ 10°F or below	• Black Color
Processing Method	<ul style="list-style-type: none"> • Lytex 4181 can be molded at temperatures in the range of 260-340°F, with 325°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 10+ minutes. Detailed molding suggestions are available on request. Cool molded parts at ambient temperature. A cooling fixture may be needed depending on part thickness and geometry. Matched metal molds. 		
Resin	• Epoxy		

Physical	Typical	Unit	Test Method
Density	1.48	g/cm ³	ASTM D792
Shrinkage	<0.001	in/in	ASTM D955
CLTE, X-Y plane		ppm/°C	ASTM E831
CLTE, Z plane		ppm/°C	ASTM E831
Poisson's Ratio	0.33		ASTM D638
Mechanical (Machined)	Typical	Unit	Test Method
Tensile Modulus	4.6 E+6 (31,700)	psi (MPa)	ASTM D3039
Tensile Strength	17,000 (117)	psi (MPa)	ASTM D3039
Flexural Modulus	4.3 E+6 (29,600)	psi (MPa)	ASTM D790
Flexural Strength	53,000 (365)	psi (MPa)	ASTM D790
Short Beam Shear	5,200 (35.8)	psi (MPa)	ASTM D2344
Mechanical (As Molded)	Typical	Unit	Test Method
Tensile Modulus	7.8 E+6 (53,800)	psi (MPa)	ASTM D638
Tensile Strength	25,000 (172)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	5.5 E+6 (37,900)	psi (MPa)	ASTM D790
Flexural Strength	70,500 (486)	psi (MPa)	ASTM D790
Impact	Typical	Unit	Test Method
Izod Notched Impact Strength	29 (1549)	ft-lb/in (J/m)	ASTM D256
Thermal	Typical	Unit	Test Method
Glass Transition T _g , Tan Delta	329 (165)	°F (°C)	ASTM D7028
Glass Transition T _g , Storage Modulus	275 (135)	°F (°C)	ASTM D7028

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

© LyondellBasell Industries Holdings, B.V. 2019

Disclaimer

Information in this document is accurate to the best of our knowledge at the date of publication. The document is designed to provide users general information for safe handling, use, processing, storage, transportation, disposal and release and does not constitute any warranty or quality specification, either express or implied, including any warranty of merchantability or fitness for any particular purpose. Users shall determine whether the product is suitable for their use and can be used safely and legally.

In addition to any prohibitions of use specifically noted in this document, LyondellBasell may further prohibit or restrict the sale of its products into certain applications. For further information, please contact a LyondellBasell representative.

Trademarks

The Trademark referenced within the product name is owned or used by the LyondellBasell family of companies.