QUANTUM
COMPOSITES

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Preliminary Product Data Sheet
LYTEX® 4181
Engineered Structural Composite (ESC) Molding Compound

LYTEX 4181 is an epoxy ESC molding compound designed for structural applications requiring good mechanical properties, retention of properties at elevated temperatures, good chemical resistance, and low density. It utilizes a 12K Tow carbon fiber reinforcement.

TYPICAL PROPERTIES -- UNCURED

Form and Color	Sheet, Black	Carbon Fiber Content	55%
Fiber Length	1.0"	Shelf Life @ 10°F	6 Months

TYPICAL PROPERTIES -- CURED

Test	Procedure	Value
Specific Gravity	ASTM D-792	1.45
Shrinkage, inch/inch (mm/mm)	ASTM D-955	0.000 (0.00)
Flexural Strength[1], psi (MPa)	ASTM D-790	60,000 (413)
Flexural Modulus[1], x 10^6 psi (GPa)	ASTM D-790	4.5 (31)
Tensile Strength[1], psi (MPa)	ASTM D-638	30,000 (206)
Izod Impact, notched, ft•lb/in. (J/m)	ASTM D-256	15 (800)
Heat Deflection Temperature, °F (°C)	ASTM D-648	>500 (>260)
Thermal Conductivity, Watts/M °K		0.45

HANDLING SUGGESTIONS -- LYTEX 4181 which is uncured should have minimum exposure to moisture. Mold temperatures in the range of 265 - 330°F can be utilized, with 280°F suggested as a starting point. Cure times will be dependent on temperature and part thickness and will typically be 5 to 10 minutes. Detailed molding suggestions are available upon request.

PRECAUTIONS -- LYTEX 4181 contains carbon fibers and should be handled carefully in order to minimize skin contact. Molding areas should be well-ventilated to minimize exposure to fumes. Presses must be provided with local exhaust to remove vapors from work areas. If adequate ventilation is not available, a respirator approved for removing organic vapor must be used. Care must be taken to prevent contact of carbon fibers with electrical equipment.

[1]Tensile and Flexural Properties are determined using net shape molded specimens. Values obtained on cut specimens will typically be lower