

Preliminary Product Data Sheet
LYTEX® 4182
Engineered Structural Composite (ESC) Molding Compound

LYTEX 4182 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 Shelf Life: @ 10°F 6 months
Fiber Length 0.5 inch Carbon Fiber Content 50 - 55%

TYPICAL PROPERTIES -- CURED

<u>Test</u>	<u>Procedure</u>	<u>Value</u>
Specific Gravity	ASTM D-792	1.45
Shrinkage, inch/inch (mm/mm)	ASTM D-955	0.000 (0.000)
Flexural Strength, psi (MPa) ¹	ASTM D-790	45,000 (310)
Flexural Modulus, psi (GPa) ¹	ASTM D-790	4.0x10 ⁶ (27.6)
Tensile Strength, psi (MPa) ¹	ASTM D-638	20,000 (138)
Izod Impact, notched, ft. lb/in. (J/M)	ASTM D-256	15 (800)
Coefficient of Thermal Expansion, in/in °F (mm/mm °C)	TMA	3.0x10 ⁻⁶ (5.5x10 ⁻⁶)
Heat Deflection Temperature, °F (°C)	ASTM D-648	>575 (300)
Continuous Use Temperature, 1000 hrs., °F (°C)		350 (175)
Thermal Conductivity, Watts/M °K		0.45

Handling Suggestions -- LYTEX 4182 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 4182 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.

WARRANTY -- The above information is offered for your consideration, investigation, and verification. No warranty, expressed or implied, is given, nor is freedom from any patents owned by Quantum Composites, Inc. or others implied. Final determination of the suitability of this material is the sole responsibility of the buyer. Contact our sales representative for assistance in developing procedures to fit individual requirements.

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