

Veritex™ Shape Memory Polymer Composite

Description:

Veritex™ is a fiber-reinforced composite that uses a shape memory polymer, Veriflex®, as the matrix. This allows Veritex to easily change shape above its activation temperature. At lower temperatures, the material maintains high strength and high stiffness.

When heated, Veritex will temporarily soften. It can then be reshaped and will harden in seconds, maintaining the new configuration. When reheated, Veritex will return to its original cured shape. This versatility allows for structures to be stowed and then later deployed to the operational shape. Veritex can be manufactured with a variety of fiber types and shape memory polymer formulations to fit unique applications requiring different properties.

Possible Applications:

- Rapid manufacturing
- Lightweight, deployable structures
- Composite repair patching
- Adaptable reinforcement

Features & Benefits:

- Unique shape memory properties
- Strengthening fabric reinforcement
- Deforms and recovers shape repeatedly
- Transforms from rigid composite to soft elastomer
- Up to 80% elongation in elastic state
- Durable
- Machinable

Material Properties for High Elongation, Intermediate Strength Composition:

Property	Metric Value	U.S. Customary Value	Test Method
Mechanical			
X-direction			
Tensile strength	17.9 MPa	2.6 ksi	ASTM D638
Tensile modulus	1187 MPa	172 ksi	ASTM D638
Tensile elongation failure	4.2%		ASTM D638
Tensile elongation failure (above T_g)	80%		ASTM D638
Y-direction			
Tensile strength	16.7 MPa	2.4 ksi	ASTM D638
Tensile modulus	1227 MPa	178 ksi	ASTM D638
Tensile elongation failure	1.7%		ASTM D638
Thermal			
Glass transition temperature (T_g)	62 °C	144 °F	
Unless otherwise noted, all measurements were taken below the T_g of Veritex.			

For More Information:

CRG Industries is a manufacturer and supplier of various high-tech, high-performance materials:

- Syntactic Foams
- Shape Memory Patch Systems
- Shape Memory Resins
- Shape Memory Composites
- Shape Memory Mandrels for Custom Tooling

For quotes, orders and product information please call toll-free at 866-341-2744 or email huelskampsr@crg-industries.com

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