

## MS-1C

### 280° F Cure Intermediate Modulus Compression Molding System

**MS-1C** is a high performance carbon fiber/epoxy resin compression molding system based on an intermediate modulus PAN based carbon fiber. MS-1C compression molding compound provides an excellent balance of intermediate stiffness and strength.

#### TYPICAL MS-1C PROCESS PARAMETERS

- Pre-weigh the desired amount of molding compound.
- Pre-heat molding compound in 160° F ± 10° F oven for 10 minutes. Form mold charge to approximately fit cavity. Charge cavity with molding compound.
- Cure temperature: 280° F - 310° F, pinch pressure: 250 psi for 15 – 30 seconds. Close mold to 2000 psi, hold 30 minutes.

#### MS-1C AMBIENT/DRY MECHANICAL PROPERTIES

<i>Property*</i>	<i>ASTM Method</i>	<i>Coupon Form</i>	<i>Avg. Value</i>
Tensile Strength (ksi)	D 3039	Net Molded	33
Tensile Modulus (msi)	D 3039	Net Molded	14
Compressive Strength (ksi)	D 3410	Net Molded	41
Compressive Modulus (msi)	D 3410	Net Molded	14
Flexural Strength (ksi)	D 790	Net Molded	87
Flexural Modulus (msi)	D 790	Net Molded	13
Notched Shear Strength (ksi)	D 5370	Machined	22
Notched Shear Modulus (msi)	D 5370	Machined	2.8
Bolt Bearing Str. (ksi) [Single Shear]	D 5961	Machined	65

\* All properties normalized to 52% fiber volume.

#### MS-1C PHYSICAL PROPERTIES

<i>Property</i>	<i>Test Method</i>	<i>Average Value</i>
Fiber Length (inches)	N/A	1
Density (g/cm <sup>3</sup> )		1.48 – 1.55
Tg (° F), Post Cured @ 350° F	DSC	327

Actual molding technique and conditions, fiber length, and part geometry will affect properties obtained.

2970 Bay Vista Court, Benicia, California 94510 ♦ Telephone: 707.747.2750 ♦ Facsimile: 707.747.2754

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