

MS-4A

280° F Cure Standard Modulus Compression Molding System

MS-4A is a carbon fiber/epoxy resin compression molding system based on standard modulus carbon fiber. MS-4A compression molding compound affords economical processing while providing good strength, stiffness, and moldability. MS-4A is available in fiber lengths ranging from ¼inch to 2 inch for custom applications.

TYPICAL MS-4A 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-4A 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	45
Tensile Modulus (msi)	D 3039	Net Molded	9
Compressive Strength (ksi)	D 3410	Net Molded	52
Compressive Modulus (msi)	D 3410	Net Molded	8
Flexural Strength (ksi)	D 790	Net Molded	93
Flexural Modulus (msi)	D 790	Net Molded	7
Notched Shear Strength (ksi)	D 5370	Machined	22
Notched Shear Modulus (msi)	D 5370	Machined	2
Bolt Bearing Str. (ksi) [Single Shear]	D 5961	Machined	141

* All properties normalized to 52% fiber volume.

MS-4A PHYSICAL PROPERTIES

<i>Property</i>	<i>Test Method</i>	<i>Average Value</i>
Fiber Length (inches)	N/A	1
Density (g/cm ³)		1.45 – 1.49
Thermal Expansion X,Y (ppm/°F)		3.5 – 4.5
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

Information presented herein is typical and representative of material performance. Actual molding technique and conditions, fiber length, and part geometry will affect properties obtained. Any and all warranties, either express or implied, are disclaimed. All recommendations or suggestions contained herein or based hereon must be evaluated by the user to determine applicability and suitability for a particular use. Values should not be used directly for specification purposes without prior discussion with YLA, Inc. YLA, Inc. does not guarantee duplication of said results by third parties.