

Quantum AMC® 8593, 126-76-118

Sheet Molding Compound

PRODUCT DESCRIPTION

Carbon Fiber reinforced hybrid vinyl ester molding compound

GENERAL

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia
Filler/Reinforcement	• 3K PAN Carbon Fiber	• Nominal 50% w/w	• Nominal 1" (25 mm) Length
Features	• Fatigue resistance • High strength	• High stiffness • Shelf Life 2 months @ 75°F	• Black or Natural Color
Processing Method	• AMC® 8593 can be molded at temperatures in the range of 260-310°F, with 280°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 3-5 minutes. Detailed molding suggestions are available on request. Cool molded parts at ambient temperature. A cooling fixture may be needed depending on part thickness and geometry. Matched metal die molds.		
Resin	• VE Hybrid Composite		

PHYSICAL	Typical	Unit	Test Method
Density	1.46	g/cm ³	ASTM D792
Shrinkage	<0.000	in/in	cold mold to cold part
CLTE, X-Y plane		ppm/°C	ASTM E831
CLTE, Z plane		ppm/°C	ASTM E831
Poisson's Ratio	0.33		ASTM D638

MECHANICAL (Machined)	Typical	Unit	Test Method
Tensile Modulus	5.2E+6 (35,800)	psi (MPa)	ASTM D-3039
Tensile Stress (Break)	41,500 (286)	psi (MPa)	ASTM D-3039
Flexural Modulus	4.5E+6 (31,000)	psi (MPa)	ASTM D-790
Flexural Stress (Break)	73,000 (503)	psi (MPa)	ASTM D-790
Short Beam Shear	8,394 (57.87)	psi (MPa)	ASTM D-2344

Machined Properties are determined using specimen machined from molded 12"x12" panels with 80% mold coverage, 1000 psi pressure, 280-300°F mold temperature for 3-5 minutes

The information and recommendations contained in this document are based upon data collected by A. Schulman and are believed to be reliable; however, because A. Schulman cannot anticipate or control the many different conditions under which this information and/or product may be used, no representation is made and no warranty is given of any kind, express or implied, for completeness, accuracy, availability, suitability, usefulness, commercial value, or non-violation of intellectual property rights of information, recommendation, and products and services directly or indirectly provided. A. Schulman assumes no responsibility for the results of the use of products and processes described herein and expressly disclaims the implied warranties of merchantability and fitness for a particular use.

Quantum AMC[®] 8593, 126-76-118

Sheet Molding Compound

MECHANICAL (As molded)	Typical	Unit	Test Method
Tensile Modulus	9.5E+6 (65,500)	psi (MPa)	ASTM D638
Tensile Strength	61,000 (421)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	6.5E+6 (44,800)	psi (MPa)	ASTM D790
Flexural Strength	115,000 (792)	psi (MPa)	ASTM D790
IMPACT			
Izod Notched Impact Strength	20 (1068)	ft-lb/in (J/m)	ASTM D256
THERMAL			
Glass Transition T _g , TanDelta	142	°F (°C)	ASTM D7028
Glass Transition T _g , Storage Modulus	118	°F (°C)	ASTM D7028

For additional information, please contact:

A. Schulman Inc., Engineered Composites
Quantum Composites, Inc.
1310 South Valley Center Drive
Bay City, MI 48604
p: 989-922-3863
f: 989-922-3915
www.aschulman.com

Page 2 of 2

Revision Date: May 9, 2018

The information and recommendations contained in this document are based upon data collected by A. Schulman and are believed to be reliable; however, because A. Schulman cannot anticipate or control the many different conditions under which this information and/or product may be used, no representation is made and no warranty is given of any kind, express or implied, for completeness, accuracy, availability, suitability, usefulness, commercial value, or non-violation of intellectual property rights of information, recommendation, and products and services directly or indirectly provided. A. Schulman assumes no responsibility for the results of the use of products and processes described herein and expressly disclaims the implied warranties of merchantability and fitness for a particular use.