

Preliminary Data Sheet
AMC-2593 (126-40-139)
Engineered Structural Composite (ESC) Molding Compound

AMC-2593 126-40-139 is a carbon fiber reinforced phenolic ESC molding compound. The carbon fiber is PAN based 3K standard modulus tow. It exhibits outstanding low flammability characteristics. AMC-2593 126-40-139 is recommended for applications such as aircraft interiors and public transportation components requiring composite materials having very low flammability, low smoke, and minimal generation of toxic gases.

TYPICAL PROPERTIES -- UNCURED

Form	Roll, 18" wide, .080" thick	Carbon Fiber Content	45%
Colors	Natural (Black)	Carbon Length	1 inch
Shelf Life: @ 0°F	6 months	and @ 40°F	2 months

TYPICAL PROPERTIES -- CURED

<u>Test</u>	<u>Procedure</u>	<u>Value</u>
Specific Gravity	ASTM D-792	1.55
Shrinkage, inch/inch (mm/mm)	ASTM D-570	0.0015 (0.038)
Flexural Strength, psi (MPa) ¹	ASTM D-790	75,500 (521)
Flexural Modulus, psi (GPa) ¹	ASTM D-790	6.5 x10 ⁶ (44.8)
Tensile Strength, psi (MPa) ¹	ASTM D-638	37,500 (258)
Tensile Modulus, psi (GPa) ¹	ASTM D-638	9.0x10 ⁶ (62.0)
Izod Impact, notched, ft.lb./in. (J/M)	ASTM D-256	24 (1281)
<u>FAR/JAR25.853. Amendment 25-116</u>	Tested Thickness	
OSU Heat Release KW / M ²	0.080"	18 (2 min), 59 (peak)
FAA Vertical Burn (60 sec)		0 seconds, 1.4 inches
Smoke Density Ds	BSS7238	2
Toxicity of Gasses	BSS7239	Pass

Since AMC-2593 does not contain an acid catalyst, the use of external mold release agents is not normally required once the mold is conditioned. The use of one or more breathe cycles is recommended to allow the water generated during the curing reaction to escape.

The carrier film may tend to cling to the SMC. It is easiest to remove using a quick stripping motion, or the sheet may be cooled slightly.

Precautions: For maximum shelf life, AMC-2593 must be stored cold. Storage for more than a few days at temperatures above 75°F may result in advancement of the material. AMC-2593 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 and preheaters 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.

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