

MATERIAL DATASHEET

HYCOMP™ COMPOSITES H310®

Features: Sheet molding compound, Polyimide material, Carbon Fiber filling (12k tow, 1" long)

Benefits: Low to moderate speed, high temperature, high load, wear resistant, hot compression molded (HCM)

Properties	Degrees	Typical Values	Units
PHYSICAL			
Specific Gravity	ASTM D792	1.54	-
Water Absorption	-	<0.5	% by wt.
MECHANICAL			
Tensile Strength			
RT		314 [45,540]	
260°C [500°F]	ASTM D638	277 [40,180]	MPa [psi]
315°C [600°F]		212 [30,750]	
Tensile Modulus			
RT		46.0 [6,672,000]	
260°C [500°F]	ASTM D638	44.8 [6,498,000]	GPa [psi]
315°C [600°F]		37.2 [5,395,000]	
Elongtion at Break			
RT		0.6	
260°C [500°F]	ASTM D638	0.5	MPa [psi]
315°C [600°F]		0.6	
Flexural Strength			
RT		546 [79,190]	
260°C [500°F]	ASTM D790	472 [68,460]	MPa [psi]
315°C [600°F]		342 [49,600]	
Flexural Modulus			
RT		35.1 [5,091,000]	
260°C [500°F]	ASTM D790	33.6 [4,873,000]	GPa [psi]
315°C [600°F]		29.6 [4,293,000]	
Compressive Strength			
RT		628 [91,080]	
260°C [500°F]	ASTM D695	436 [63,240]	MPa [psi]
Izod impact, notched - RT	ASTM D256	705 [13.2]	J/m [ft-lb/in]
THERMAL			
Thermal Expansion*			
perpendicular	ASTM E831	55	µm/m°C [µin/in°F]
parallel		4	
Temperature Range	-	315 [600]	°C [°F]
WEAR CHARACTERISTICS			
Coefficient of Friction**	ASTM D3702	0.6	-
Limiting PV (Unlubricated)	-	2.8 [80,000]	MPa·m/s [psi·Sf/Min.]
GENERAL			
Reinforcing Materials	-	Carbon Fiber	-
Resin Matrix	-	Polyimide	-
CHEMICAL COMPATIBILITY			
Sea Water	-	Recommended	-
Dilute Acids	-	Recommended	-
Weak Bases	-	Recommended	-
Alcohols	-	Recommended	-
Hydrocarbons	-	Recommended	-
Strong Bases (pH>10)	-	Not Recommended	-

*Measurements were conducted in temperature range from 40°C to 260°C.

**Values were obtained under thrust washer test PV conditions: pressure (P) 100 psi, velocity (V) 100 f/m.

Measured by standard ASTM methods on machined, compression-molded test specimens.

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