

MATERIAL DATASHEET Hycomp™ Composite H310®

Features & Benefits:

- Black color, sheet molding compound, proprietary custom polyimide, Hot Compression Molded (HCM), carbon fiber filling (12k tow, 1" long)
- Low to moderate speed, high temperature, high load, wear resistant

Properties	Test Methods	Typical Values	Units
PHYSICAL			
Specific Gravity	ASTM D792	1.55	-
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 [66.7]	
260°C [500°F]	ASTM D638	44.8 [65.0]	GPa [psi x 10 ⁵]
315°C [600°F]		37.2 [53.4]	
Elongtion at Break			
RT		0.6	
260°C [500°F]	ASTM D638	0.5	%
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 [50.1]	
260°C [500°F]	ASTM D790	33.6 [48.7]	GPa [psi x 10 ⁵]
315°C [600°F]		29.6 [42.3]	
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*	ASTM E831		
perpendicular		55 [15]	m/m/°C [in/in/°F] x 10 ⁻⁶
parallel	ASTM E831	4 [2]	
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 Fibers	-
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 a 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

Patents issued and pending. This information is based on our experience to date and we believe it to be reliable.

It is intended to be used only as a guide for use at your discretion and risk.

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The table above represents typical values, intended for reference only. They should NOT be used as a basis for design specifications or quality control.

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