

# MATERIAL DATASHEET

# Hycomp™ Composite Wearcomp® 200

### Features & Benefits:

- Black color, sheet molding compound, proprietary custom polyimide, Hot Compression Molded (HCM), carbon fibers (1" chopped) + graphite
- Ideal for medium speed, high load, high impact applications, fiber content decreased because of added Graphite, lower coefficient of friction than Wearcomp® material

Properties	Test Methods	Typical Values	Units
<b>PHYSICAL</b>			
Specific Gravity	ASTM D792	1.59	-
Water Absorption	-	<0.5	% by wt.
<b>MECHANICAL</b>			
Tensile Strength			
RT	ASTM D638	138 [20,000]	MPa [psi]
260°C [500°F]		117 [17,000]	
Tensile Modulus			
RT	ASTM D638	29.6 [43.0]	GPa [psi x 10 <sup>5</sup> ]
260°C [500°F]		27.6 [40.0]	
Flexural Strength			
RT	ASTM D790	209 [30,250]	MPa [psi]
260°C [500°F]		172 [25,000]	
Flexural Modulus			
RT	ASTM D790	28.4 [41.2]	GPa [psi x 10 <sup>5</sup> ]
260°C [500°F]		27.0 [39.2]	
Compressive Strength			
RT	ASTM D695	296 [43,000]	MPa [psi]
260°C [500°F]		193 [28,000]	
Izod impact, notched - RT	ASTM D256	320 [6]	J/m [ft-lb/in]
<b>THERMAL</b>			
Thermal Expansion*	ASTM E831		
perpendicular	ASTM E831	27 [15]	m/m/°C [in/in/°F] x 10 <sup>-6</sup>
parallel		3.6 [2]	
Temperature Range	-	315 [600]	°C [°F]
<b>WEAR CHARACTERISTICS</b>			
Coefficient of Friction**	ASTM D3702	0.15 - 0.20	-
Limiting PV (Unlubricated)	-	3.5 [100,000]	MPa·m/s [psi*Sf/Min.]
<b>GENERAL</b>			
Reinforcing Materials	-	Carbon Fibers / Graphite	-
Resin Matrix	-	Polyimide	-
<b>CHEMICAL COMPATIBILITY</b>			
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.

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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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