



SMS group

# Materials Data Sheet

Property Description	Degrees	Units	Aerospace Grade	Performance Bearing Materials			Insulating Materials
			HyComp® 310	WearComp®	WearComp® 200	FibreComp®	HyComp® 320
Raw Material Type			SMC	SMC	SMC	BMC	SMC
Specific Gravity		g/cm	1.55	1.55	1.59	1.50	1.88
<b>Mechanical Properties</b>							
Tensile Strength	73°F	PSI	49,000	32,000	20,000	12,000	34,000
	500°F		41,000	27,000	17,000	8,000	26,000
Tensile Modulus	73°F	PSI	5,700,000	4,900,000	4,300,000	2,300,000	2,700,000
	500°F		5,200,000	4,700,000	4,000,000	1,600,000	1,900,000
Flexural Strength	73°F	PSI	80,000	50,000	30,250	15,000	63,000
	500°F		75,000	45,000	25,000	12,000	54,000
Flexural Modulus	73°F	PSI	5,600,000	4,900,000	4,120,000	2,100,000	3,100,000
	500°F		5,200,000	4,700,000	3,920,000	1,500,000	2,800,000
Compressive Strength	73°F	PSI	104,000	75,000	43,000	36,000	48,000
	500°F		69,000	50,000	28,000	25,000	33,000
Izod Impact, Notched	73°F	ft-lb/in	12'	12'	6'	3'	25'
<b>Thermal Properties</b>							
Thermal Expansion	perpendicular	in/in/°F	15 x 10 <sup>-6</sup>	15 x 10 <sup>-6</sup>	15 x 10 <sup>-6</sup>	10 x 10 <sup>-6</sup>	24 x 10 <sup>-6</sup>
	parallel	in/in/°F	2 x 10 <sup>-6</sup>	2 x 10 <sup>-6</sup>	2 x 10 <sup>-6</sup>	10 x 10 <sup>-6</sup>	8 x 10 <sup>-6</sup>
Temperature Range			600°F	600°F	600°F	600°F	600°F
<b>Wear Characteristics</b>							
Coefficient of Friction			.15 - .20	.15 - .20	.15 - .20	.10 - .20	N/A
Limiting PV (unlubricated)		PSI*Sf/Min.	80,000	80,000	100,000	120,000	N/A
<b>General</b>							
Reinforcing Materials			Carbon Fiber	Carbon Fiber	C.F./Graphite	C.F./Graphite	Glass Fiber
Resin Matrix			Polyimide	Polyimide	Polyimide	Polyimide	Polyimide
<b>Chemical Compatibility</b>							
Sea Water			Recommended	Recommended	Recommended	Recommended	Recommended
Dilute Acids			Recommended	Recommended	Recommended	Recommended	Recommended
Weak Bases			Recommended	Recommended	Recommended	Recommended	Recommended
Alcohols			Recommended	Recommended	Recommended	Recommended	Recommended
Hydrocarbons			Recommended	Recommended	Recommended	Recommended	Recommended
Strong Bases (pH>10)			Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Water Absorption		% by wt.	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%
COST RANGE			HIGH	HIGH	HIGH	MEDIUM	MEDIUM

Measured by standard ASTM methods on machined, compression-molded test specimens.  
Registered tradename of HyComp Inc. - Patents issued and pending

HyComp Inc.  
17960 Englewood Drive Cleveland, Ohio 44130  
(440) 234-2002  
(440) 234-4911 Fax  
www.hycompinc.com

This information is based on our experience to date and we believe it to be reliable. It is intended only as a guide for use at your discretion and risk. None of this information is to be taken as a license to operate under, or a recommendation to infringe, any patents.