



DRAKE HTT-400BG COMPOSITE

For bearing & wear applications at working temperatures up to 400°F (204°C)

DESCRIPTION

DRAKE HTT-400BG is a high temperature self-lubricating bearing and wear resistant thermoset composite. It offers working temperature capabilities to 400°F (204°C), a significant step up from almost all other thermoset composites. HTT-400BG also resists many solvents and chemical solutions that corrode bronze bearings and strip away lubricants.

COMPOSITION

High temperature thermoset resin, woven aramid fiber, PTFE and MoS₂ lubricated

KEY ATTRIBUTES

- Exceptional temperature resistance
- Self-lubricating
- High load capable
- High mechanical strength
- Low thermal expansion
- Chemical resistance superior to other thermoset composites
- Low coefficient of friction

AVAILABILITY

- Tube, plate in standard and custom sizes
- Many sizes available with no tooling charge
- Precision machined parts



PHYSICAL PROPERTIES	SI UNIT	SAE UNIT	METHODS
Compressive Strength			
Ultimate	345 MPa	50,000 PSI	
Yield	103 MPa	15,000 PSI	ASTM D695
Modulus	3,447 MPa	500,000 PSI	
Tensile Strength	75 MPa	11,000 PSI	ASTM D638
Tensile Modulus of Elasticity	3,240 MPa	470,000 PSI	ASTM D638
Poisson's Ratio	0.231		ASTM D3039-08
Shear Strength	82 MPa	12,000 PSI	ASTM D2344
Flexural Modulus of Elasticity	1,793 MPa	260,000 PSI	ASTM D790
Hardness Rockwell M	100		ASTM D785
Density	1.3 g/cm ³	0.047 lbs/in ³	ASTM D792
Water Swell	<0.15%		ASTM D570
ELECTRICAL PROPERTIES			
Dielectric Strength	7.087 kV/mm	180 volts/mil	ASTM D149-97a
Volume Resistivity	1.7 x 10 ¹⁵ ohm-cm		ASTM D257-07

Date table continued on next page →

THERMAL PROPERTIES	SI UNIT	SAE UNIT	METHODS
Operating Temperatures	-40° to 204°C	-40° to 400°F	
Coefficient of Thermal Expansion			
Normal to Laminate	$7.2 \times 10^{-5} / \Delta^{\circ}\text{C}$	$4.0 \times 10^{-5} / \Delta^{\circ}\text{F}$	
Parallel to Laminate	$3.6 \times 10^{-5} / \Delta^{\circ}\text{C}$	$2.0 \times 10^{-5} / \Delta^{\circ}\text{F}$	
FRICTION & WEAR			
Coefficient of Friction, Dry Dynamic	0.13 - 0.15		

Note: Property values based on test specimens taken from sheet.