



DRAKE HTT-3 COMPOSITE

For applications with high working loads up to 400°F (204°C)

DESCRIPTION

DRAKE HTT-3 semi-finished shapes for machining are made from a high-temperature thermoset composite of woven Meta-Aramid fibers offering good chemical resistance and higher operating temperatures than standard thermoset resins. They can provide an economical option to advanced thermoplastics.

KEY ATTRIBUTES

- Non-conductive
- High load capable
- High mechanical strength
- Low thermal conductivity
- Minimal moisture absorption
- Good chemical resistance

AVAILABILITY

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



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	7.9 kV/mm	200 volts/mil	ASTM D149-97a
Volume Resistivity	4.2 x 10 ¹⁵ ohm-cm		ASTM D257-07
THERMAL PROPERTIES			
Operating temperatures	-40° to 204°C	-40° to 400°F	
Coefficient of Thermal Expansion	3.6x10 ⁻⁵ / Δ°C	2.0x10 ⁻⁵ / Δ°F	
Thermal conductivity	est. 0.10 W m ⁻¹ K ⁻¹		

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