

## Daelim H&L Plavis-G15 DF 15% Graphite Filled Aromatic Polyimide Bearing

Category : Polymer , Thermoset , Polyimide, TS

### Material Notes:

Direct Formed. Plavis-G-15: Graphite 15 wt% filled, Self lubricating grade for wear and friction applications. General Plavis information for all grades: PLAVIS polyimide has nitrogen bonded to 3 carbons is the critical part of the chain and imparts the plastic with remarkable features and benefits. PLAVIS is available as raw material or as molded parts, plates, and rods. PLAVIS isostatic molded rods have uniform properties in all directions. Properties: One of the highest temperature plastics in the world with a continuous operating temperature of 300°. Well suited for cryogenic conditions Retains high tensile strength and modulus even at high temperatures. Will not crack or creep under load. Lowest out-gassing of any plastic at 300°. Will not contaminate vacuum chamber process or products. Grades are available for use at 1 million psi-fpm PV limit with lubrication, 300,000 psi-fpm PV limit without lubrication. Stable friction level. Filled grades resistivity is tailorable. Machines like brass-tiny and intricate features can be produced without cracking. Can be lapped to mirror finish. Applications: Flat Panel Display/Solar Cells:: Drying oven (HP/CP, Baking, IR) Glass support pins, Glass holders, Rollers; Cleaning EUV roller, Bearing; PVD/CVD Insulation parts Insert, Clamp, Bush, Caps, Susceptor pin, Ball bearing etc.; Etcher Screw, bolts. and Others Probe unit, station parts Semiconductor: Wafer Processing Wafer clamp rings, Insulators, Screw & Fasteners, Vacuum pads, Alignment pins; Wafer handling, guides, and carriers, Vacuum pick up strips; IC handling & testing Die pick up collects, Test socket insulator General Industry: Hot runner system Seal caps, Insulators; Plasma cutting torches parts Swirl rings, Insulator, Caps.; Heat resistance materials Bottle grippers, Conveyor tips; Scientific consumable parts GC/Mass ferrules, HPLC valve rotors; Textile Machines Valve seat, Bearing, Shedder Bushing Automotive / Transportation: Transmissions Thrust Washers, Seal Rings, Valve Seats, Transmission Valve Balls, Check Valves; Electrical Motors Bushings, Washers, Thrust Plugs; Brakes Wear Pads, Valve Seats and Balls in ABS Systems; Fuel Systems Bushings, Seal Rings, Band Springs, Valve Seats; Turbo Chargers Ball Bearing Retainers, Wastegate Bushings; Vacuum Pump Vanes, Engine Belt Tensioners, Rubbing Blocks, Door Hinge Bushings, Gear Stick Rollers, Ignition Distributors, Constant Friction Pads for Split-Flywheels Aerospace/Aircraft: Compressor Variable Vane Bushings and Washers, Aircraft Fan Thrust Reverser, Fan Blade Wear Strips, Locking Insert Nut, Fuel Line Spacer, Reciprocating Shaft Seal for Jet Engine Afterburner Actuating System Information provided by Daelim H&L

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Daelim-HL-Plavis-G15-DF-15-Graphite-Filled-Aromatic-Polyimide-Bearing.php](http://www.lookpolymers.com/polymer_Daelim-HL-Plavis-G15-DF-15-Graphite-Filled-Aromatic-Polyimide-Bearing.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.43 g/cc	1.43 g/cc	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70.0 - 85.0	70.0 - 85.0	ASTM D785
Tensile Strength, Ultimate	63.7 MPa	9240 psi	ASTM D1708
	32.4 MPa	4700 psi	ASTM D1708
	@Temperature 260 °C	@Temperature 500 °F	
Elongation at Break	5.50 %	5.50 %	ASTM D1708
	4.50 %	4.50 %	ASTM D1708

Mechanical Properties	Metric	English	Comments
Flexural Strength	83.4 MPa	12100 psi	ASTM D790
	49.0 MPa	7110 psi	ASTM D790
	@Temperature 260 °C	@Temperature 500 °F	
Flexural Modulus	3.187 GPa	462.2 ksi	ASTM D790
	1.765 GPa	256.0 ksi	ASTM D790
	@Temperature 260 °C	@Temperature 500 °F	
Compressive Strength	22.6 MPa	3280 psi	ASTM D695
	@Strain 1.00 %	@Strain 1.00 %	
	105.9 MPa	15360 psi	ASTM D695
	@Strain 10.0 %	@Strain 10.0 %	
Compressive Modulus	2.304 GPa	334.2 ksi	ASTM D695
Izod Impact, Notched	0.490 J/cm	0.918 ft-lb/in	ASTM D256
Coefficient of Friction	0.260	0.260	PV=10 kg/cm <sup>2</sup> · m/sec (0.98 Mpa·m/sec)

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 µm/m-°C	25.0 µin/in-°F	ASTM D696
	@Temperature 23.0 - 260 °C	@Temperature 73.4 - 500 °F	
Thermal Conductivity	0.450 W/m-K	3.12 BTU-in/hr-ft <sup>2</sup> -°F	
Maximum Service Temperature, Air	300 °C	572 °F	
	370 °C	698 °F	50% tensile strength reduction at 220 hours
Deflection Temperature at 1.8 MPa (264 psi)	360 °C	680 °F	
Decomposition Temperature	520 °C	968 °F	50wt% reduction after 239 min
	614 °C	1140 °F	short term
Flammability, UL94	V-0	V-0	
Oxygen Index	54.0 %	54.0 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 - 1.00e+13 ohm-cm	1.00e+12 - 1.00e+13 ohm-cm	ASTM D257

Electrical Properties	Metric	English	Comments
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