

Kolon KOCETAL[®] K700

Thermal properties: Kocetal has excellent heat stability; heat degradation is little under long term and high temperature application, compared to other POM. Maximum applicable temperature of products of Kocetal are short term: 140-150C and long term: 100-120C.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ASTM D790
Water Absorption	0.22 %	0.22 %	ASTM D570
Linear Mold Shrinkage	0.020 cm/cm	0.020 in/in	ASTM D955
Melt Flow	27 g/10 min	27 g/10 min	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80	80	ASTM D785
Tensile Strength, Ultimate	64.7 MPa	9390 psi	ASTM D638
Elongation at Break	45 %	45 %	ASTM D638
Flexural Yield Strength	97.1 MPa	14100 psi	ASTM D790
Flexural Modulus	2.70 GPa	391 ksi	ASTM D790
Izod Impact, Notched	0.549 J/cm	1.03 ft-lb/in	ASTM D256
Coefficient of Friction	0.22	0.22	ASTM D1894

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	ASTM D257
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	3.7 @Frequency 1e+6 Hz	3.7 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	19.0 kV/mm	483 kV/in	ASTM D149
Dissipation Factor	0.0060 @Frequency 1e+6 Hz	0.0060 @Frequency 1e+6 Hz	ASTM D150
Arc Resistance	>= 200 sec	>= 200 sec	ASTM D495

Thermal Properties	Metric	English	Comments
CTE, linear	110 - 130 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	61.1 - 72.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	ASTM D696

Melting Point	166 °C	331 °F	ASTM D1525
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	Long Term
	140 - 150 °C	284 - 302 °F	Short Term
Deflection Temperature at 0.46 MPa (66 psi)	158 °C	316 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	110 °C	230 °F	ASTM D648
Vicat Softening Point	162 °C	324 °F	ASTM D1525
Flammability, UL94	HB	HB	
Processing Properties	Metric	English	Comments
Rear Barrel Temperature	160 - 180 °C	320 - 356 °F	
Middle Barrel Temperature	182 - 200 °C	359 - 392 °F	
Front Barrel Temperature	190 - 210 °C	374 - 410 °F	
Nozzle Temperature	190 - 210 °C	374 - 410 °F	
Melt Temperature	166 °C	330 °F	
Mold Temperature	60.0 - 100 °C	140 - 212 °F	Surface
Drying Temperature	80.0 °C	176 °F	
Dry Time	3 hour	3 hour	
Injection Pressure	68.6 - 108 MPa	9950 - 15600 psi	
Screw Speed	50 - 100 rpm	50 - 100 rpm	Purge with polyethylene/polystyrene