

LG Chemical KEYFLEX BT 1072D Ester Type TPE

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyester, TP , Polyester Thermoplastic Elastomer

Material Notes:

Description: Injection Molding, TPC-ET, General Purpose, High Modulus
 Application: Injection Parts for Automotives, Leisure & Sports
 CAS: 37282-12-5
 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-KEYFLEX-BT-1072D-Ester-Type-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.26 g/cc	1.26 g/cc	ASTM D792
Water Absorption	0.30 % @Temperature 23.0 Â°C, Time 86400 sec	0.30 % @Temperature 73.4 Â°F, Time 24.0 hour	ASTM D570
Molecular Weight	458.458 g/mol	458.458 g/mol	
Maximum Moisture Content	0.010	0.010	Injection Molding
	0.010	0.010	Extrusion Molding
Linear Mold Shrinkage, Flow	0.015 - 0.019 cm/cm @Thickness 3.20 mm	0.015 - 0.019 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	25 g/10 min @Load 2.16 kg, Temperature 240 Â°C	25 g/10 min @Load 4.76 lb, Temperature 464 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	69	69	ASTM D2240
Tensile Strength at Break	47.1 MPa @Thickness 2.00 mm	6830 psi @Thickness 0.0787 in	50mm/min; ASTM D638
Tensile Strength, Yield	29.4 MPa @Thickness 2.00 mm	4270 psi @Thickness 0.0787 in	50mm/min; ASTM D638
Elongation at Break	400 % @Thickness 2.00 mm	400 % @Thickness 0.0787 in	50mm/min; ASTM D638
Flexural Modulus	0.686 GPa @Thickness 6.40 mm	99.6 ksi @Thickness 0.252 in	15mm/min; ASTM D790
	0.490 J/cm	0.918 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Thickness 6.40 mm, Temperature -40.0 Â°C	@Thickness 0.252 in, Temperature -40.0 Â°F	
	0.981 J/cm	1.84 ft-lb/in	
	@Thickness 6.40 mm, Temperature 23.0 Â°C	@Thickness 0.252 in, Temperature 73.4 Â°F	ASTM D256
Tear Strength	162 kN/m	924 pli	50mm/min, at Break; ASTM D624

Thermal Properties	Metric	English	Comments
Melting Point	219 Â°C	426 Â°F	Peak
Boiling Point	140 - 230 Â°C	284 - 446 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	135 Â°C	275 Â°F	
	@Thickness 6.40 mm	@Thickness 0.252 in	Unannealed; ASTM D648
UL RTI, Electrical	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical with Impact	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical without Impact	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flammability, UL94	HB	HB	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	HB	HB	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flash Point	300 - 340 Â°C	572 - 644 Â°F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00 \times 10^{11}$ ohm-cm	$\geq 1.00 \times 10^{11}$ ohm-cm	ASTM D257
Dielectric Strength	26.0 kV/mm @Thickness 1.00 mm	660 kV/in @Thickness 0.0394 in	ASTM D149
Arc Resistance	120 - 180 sec	120 - 180 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	Solution A; IEC 60112
Hot Wire Ignition, HWI	30 - 60 sec @Thickness ≥ 1.50 mm	30 - 60 sec @Thickness ≥ 0.0591 in	
	60 - 120 sec @Thickness ≥ 3.00 mm	60 - 120 sec @Thickness ≥ 0.118 in	
High Amp Arc Ignition, HAI	≥ 120 arcs @Thickness 1.50 mm	≥ 120 arcs @Thickness 0.0591 in	
	≥ 120 arcs @Thickness 3.00 mm	≥ 120 arcs @Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	10.0 - 25.4 mm/min	0.394 - 1.00 in/min	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	220 - 240 Å°C	428 - 464 Å°F	Injection Molding
Middle Barrel Temperature	230 - 250 Å°C	446 - 482 Å°F	Injection Molding
Front Barrel Temperature	235 - 255 Å°C	455 - 491 Å°F	Injection Molding
Nozzle Temperature	235 - 255 Å°C	455 - 491 Å°F	Injection Molding
Zone 1	220 - 240 Å°C	428 - 464 Å°F	Extrusion Molding
Zone 2	220 - 240 Å°C	428 - 464 Å°F	Extrusion Molding
Zone 3	225 - 245 Å°C	437 - 473 Å°F	Extrusion Molding
Zone 4	235 - 245 Å°C	455 - 473 Å°F	Extrusion Molding
Adapter Temperature	235 - 245 Å°C	455 - 473 Å°F	Extrusion Molding
Die Temperature	220 - 260 Å°C	428 - 500 Å°F	Extrusion Molding
Melt Temperature	220 - 240 Å°C	428 - 464 Å°F	Injection Molding

Processing Properties	220 - 240 Å°C Metric	428 - 464 Å°F English	Extrusion Molding Comments
Mold Temperature	40.0 - 60.0 Å°C	104 - 140 Å°F	Injection Molding
Drying Temperature	80.0 - 90.0 Å°C	176 - 194 Å°F	Injection Molding
	80.0 - 90.0 Å°C	176 - 194 Å°F	Extrusion Molding
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	Injection Molding
	3.00 - 4.00 hour	3.00 - 4.00 hour	Extrusion Molding

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