

LG Chemical KEYFLEX BT 1040D Ester Type TPE

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

Material Notes:

Description: Injection Molding, TPC-ET, General Purpose, Medium Modulus
Application: Antenna Cover, Injection Parts for 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-1040D-Ester-Type-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.13 g/cc	1.13 g/cc	ASTM D792
Water Absorption	0.70 % @Temperature 23.0 Â°C, Time 86400 sec	0.70 % @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	0.0060 - 0.010 cm/cm @Thickness 3.20 mm	0.0060 - 0.010 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	20 g/10 min @Load 2.16 kg, Temperature 200 Â°C	20 g/10 min @Load 4.76 lb, Temperature 392 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	92	92	ASTM D2240
Hardness, Shore D	38	38	ASTM D2240
Tensile Strength at Break	25.5 MPa @Thickness 2.00 mm	3700 psi @Thickness 0.0787 in	50mm/min; ASTM D638
Elongation at Break	700 % @Thickness 2.00 mm	700 % @Thickness 0.0787 in	50mm/min; ASTM D638
Flexural Modulus	0.0686 GPa @Thickness 6.40 mm	9.96 ksi @Thickness 0.252 in	15mm/min; ASTM D790
Izod Impact, Notched	NB @Thickness 6.40 mm,	NB @Thickness 0.252 in,	ASTM D256

Mechanical Properties	Temperature 23.0 Â°C Metric	Temperature 73.4 Â°F English	Comments
	NB	NB	
	@Thickness 6.40 mm, Temperature -40.0 Â°C	@Thickness 0.252 in, Temperature -40.0 Â°F	ASTM D256
Tear Strength	118 kN/m	672 pli	50mm/min, at Break; ASTM D624

Thermal Properties	Metric	English	Comments
Melting Point	178 Â°C	352 Â°F	
Boiling Point	140 - 230 Â°C	284 - 446 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	60.0 Â°C	140 Â°F	Unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
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
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Volume Resistivity Electrical Properties	$\geq 1.00\text{e}+13$ ohm-cm Metric	$\geq 1.00\text{e}+13$ ohm-cm English	ASTM D257 Comments
Dielectric Strength	26.0 kV/mm @Thickness 1.00 mm	660 kV/in @Thickness 0.0394 in	ASTM D149
Arc Resistance	180 - 240 sec	180 - 240 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	Solution A; IEC 60112
Hot Wire Ignition, HWI	15 - 30 sec @Thickness ≥ 1.50 mm	15 - 30 sec @Thickness ≥ 0.0591 in	
	30 - 60 sec @Thickness ≥ 3.00 mm	30 - 60 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	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	180 - 200 Â°C	356 - 392 Â°F	Injection Molding
Middle Barrel Temperature	190 - 210 Â°C	374 - 410 Â°F	Injection Molding
Front Barrel Temperature	200 - 220 Â°C	392 - 428 Â°F	Injection Molding
Nozzle Temperature	200 - 220 Â°C	392 - 428 Â°F	Injection Molding
Zone 1	180 - 200 Â°C	356 - 392 Â°F	Extrusion Molding
Zone 2	190 - 210 Â°C	374 - 410 Â°F	Extrusion Molding
Zone 3	200 - 220 Â°C	392 - 428 Â°F	Extrusion Molding
Zone 4	200 - 220 Â°C	392 - 428 Â°F	Extrusion Molding
Adapter Temperature	200 - 220 Â°C	392 - 428 Â°F	Extrusion Molding
Die Temperature	190 - 230 Â°C	374 - 446 Â°F	Extrusion Molding
Melt Temperature	180 - 220 Â°C	356 - 428 Â°F	Injection Molding
	180 - 220 Â°C	356 - 428 Â°F	Extrusion Molding
Mold Temperature	10.0 - 35.0 Â°C	50.0 - 95.0 Â°F	Injection Molding
Drying Temperature	80.0 - 90.0 Â°C	176 - 194 Â°F	Injection Molding

Processing Properties	80.0 - 90.0 A°C Metric	176 - 194 A°F English	Extrusion Molding Comments
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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