Advanced Polymer Alloys DuraGrip™ DGR 6060 NC Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Olefinic Elastomer (TPO)

Material Notes:

DuraGrip® DGR 6060NC is designed to be a general purpose Thermoplastic Elastomer (TPE) that is easy to use in injection molding and extrusion processes. DGR 6060NC has an excellent soft touch feel, will bond to olefinics, is easy to color, and is available in FDA compliant formulations. DuraGrip® is not hygroscopic and under normal conditions does not require drying.Information provided by Advanced Polymer Alloys

Order this product through the following link:
http://www.lookpolymers.com/polymer_Advanced-Polymer-Alloys-DuraGrip-DGR-6060-NC-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.990 g/cc	0.990 g/cc	ASTM D471; ISO 2781
Viscosity	107000 cP @Shear Rate 300 1/s, Temperature 190 °C	107000 cP @Shear Rate 300 1/s, Temperature 374 °F	ASTM D3835
Linear Mold Shrinkage	0.013 cm/cm	0.013 in/in	
	0.022 cm/cm	0.022 in/in	
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	
	0.015 cm/cm	0.015 in/in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	63	63	Time of 5 seconds; ASTM D2240; ISO 48
Tensile Strength, Ultimate	6.5285 MPa	946.88 psi	After 7 days at 70°C; ASTM D412 ISO 37
	6.899 MPa	1001 psi	After 7 days at 100oC; ASTM D412 ISO 37
	7.419 MPa	1076 psi	ASTM D412; ISO 37
Elongation at Break	370.44 %	370.44 %	After 7 days at 70°C; ASTM D412 ISO 37
	378 %	378 %	ASTM D412; ISO 37
	378 %	378 %	After 7 days at 100°C; ASTM D412 ISO 37
Modulus of Elasticity	0.00216 GPa	0.314 ksi	After 7 days at 70°C; ASTM D412 ISO 37
	0.00230 GPa	0.334 ksi	After 7 days at 100°C; ASTM D412

Mechanical Properties	Metric	English	Comments
100% Modulus	0.00219 GPa	0.318 ksi	ASTM D412; ISO 37
Graves Tear Strength	23.1 kN/m @Temperature 23.9 °C	132 pli @Temperature 75.0 °F	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	30	30	Cs-17 Wheel, 1000 g Load; ASTM D3389
Compression Set	23 %	23 %	After 22 Hr at 75°F (24°C); ASTM D395; ISO 815
	43 % @Temperature 70.0 °C	43 % @Temperature 158 °F	22 hrs.; ASTM D395; ISO 815
	71 % @Temperature 100 °C	71 % @Temperature 212 °F	22 hrs.; ASTM D395; ISO 815
Tensile Set	11 %	11 %	100% Tension; ASTM D412

Thermal Properties	Metric	English	Comments
Brittleness Temperature	-67.2 °C	-89.0 °F	ASTM D746; ISO 812

Processing Properties	Metric	English	Comments
Processing Temperature	204 °C	400 °F	
Rear Barrel Temperature	188 - 199 °C	370 - 390 °F	
Middle Barrel Temperature	199 - 210 °C	390 - 410 °F	
Front Barrel Temperature	216 - 227 °C	420 - 440 °F	
Nozzle Temperature	204 - 221 °C	400 - 430 °F	
Melt Temperature	199 - 221 °C	390 - 430 °F	
Mold Temperature	43.3 - 54.4 °C	110 - 130 °F	
Injection Pressure	1.03 - 3.45 MPa	150 - 500 psi	
Cycle Time - Injection	0.50 - 2.0 sec	0.50 - 2.0 sec	boost
Screw Speed	25 - 100 rpm	25 - 100 rpm	
Cure Time	0.167 - 0.333 min	0.00278 - 0.00556 hour	Cooling Time

Descriptive Properties	Value	Comments
Fluid Resistance - Volume Change, % (ASTM D471)	-13	After 7 Days in Water at 212°F (100°C)

Descriptive Properties	Value	Comments
	0	After 7 Days in ASTM Oil No.1 at 212°F (100°C)
	39	After 7 Days in IRM 903 Oil No.3 at 212°F (100°C)
	9	After 7 Days in ASTM Ref. Fuel No. B at 75°F (24°C)

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