

Advanced Polymer Alloys DuraGrip™ DGR 6070 NC Thermoplastic Elastomer (TPE)

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

Material Notes:

DuraGrip® DGR 6070NC is designed to be a general purpose Thermoplastic Elastomer (TPE) that is easy to use in injection molding and extrusion processes. DGR 6070NC 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-6070-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	104000 cP	104000 cP	ASTM D3835
	@Shear Rate 300 1/s, Temperature 190 °C	@Shear Rate 300 1/s, Temperature 374 °F	
Linear Mold Shrinkage	0.013 cm/cm	0.013 in/in	
	0.021 cm/cm	0.021 in/in	
Linear Mold Shrinkage, Transverse	0.011 cm/cm	0.011 in/in	
	0.012 cm/cm	0.012 in/in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	64	64	Time of 5 seconds; ASTM D2240; ISO 48
Tensile Strength, Ultimate	6.971 MPa	1011 psi	After 7 days at 100°C; ASTM D412 ISO 37
	7.128 MPa	1034 psi	After 7 days at 70°C; ASTM D412 ISO 37
	7.832 MPa	1136 psi	ASTM D412; ISO 37
Elongation at Break	369 %	369 %	ASTM D412; ISO 37
	376.38 %	376.38 %	After 7 days at 70°C; ASTM D412 ISO 37
	380.07 %	380.07 %	After 7 days at 100°C; ASTM D412 ISO 37
Modulus of Elasticity	0.00160 GPa	0.232 ksi	After 7 days at 70°C; ASTM D412 ISO 37
	0.00163 GPa	0.237 ksi	After 7 days at 100°C; ASTM D412

Mechanical Properties	Metric	English	ISO 37 Comments
100% Modulus	0.00167 GPa	0.242 ksi	ASTM D412; ISO 37
Graves Tear Strength	26.1 kN/m @Temperature 23.9 °C	149 pli @Temperature 75.0 °F	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	10	10	Cs-17 Wheel, 1000 g Load; ASTM D3389
Compression Set	27 %	27 %	After 22 Hr at 75°F (24°C); ASTM D395; ISO 815
	45 % @Temperature 70.0 °C	45 % @Temperature 158 °F	22 hrs.; ASTM D395; ISO 815
	72 % @Temperature 100 °C	72 % @Temperature 212 °F	22 hrs.; ASTM D395; ISO 815
Tensile Set	15 %	15 %	100% Tension; ASTM D412

Thermal Properties	Metric	English	Comments
Brittleness Temperature	-65.0 °C	-85.0 °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)	2	After 7 Days in ASTM Oil No.1 at 212°F (100°C)

Descriptive Properties	Value	Comments
	-7	After 7 Days in Water at 212°F (100°C)
	9	After 7 Days in ASTM Ref. Fuel No. B at 75°F (24°C)

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