Technical Data Sheet

DuraGrip DGR-6070NCNAT

Thermoplastic Elastomer

Product Description

DuraGrip DGR 6070NC is designed to be a general-purpose Thermoplastic Elastomer (TPE) that is easy to use in an injection molding process. 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.

Processing Method	Injection Molding
Attribute	Good Colorability
Forms	Pellets
Application	General Purpose

Typical Properties	Nominal Value	Units	Test Method
Physical			
Density	0.988	g/cm³	ISO 1183
Density - Specific Gravity	0.988	g/cm³	ASTM D792
Change in Volume			
(in ASTM #1 Oil, 100 °C, 168 hr)	2.0	%	ISO 1817
(in ASTM #1 Oil, 100 °C, 168 hr)	2.0	%	ASTM D471
(in IRM 903 Oil, 100 °C, 168 hr)	38	%	ASTM D471
(in IRM 903 Oil, 100 °C, 168 hr)	38	%	ISO 1817
(in Water, 100 °C, 168 hr)	-7.0	%	ASTM D471
(in Water, 100 °C, 168 hr)	-7.0	%	ISO 1817
(in Reference Fuel B, 24 °C, 168 hr)	9.0	%	ISO 1817
(in Reference Fuel B, 24 °C, 168 hr)	9.0	%	ASTM D471
Melt Viscosity, (190 °C, 300 sec^-1)	104	Pa·s	ASTM D3835
Mechanical			
Change in Ultimate Elongation in Air			
(70 °C, 168 hr)	2.0	%	ASTM D573
(100 °C, 168 hr)	3.0	%	ASTM D573
Tensile Stress at 100%	1.67	MPa	ASTM D412
(23 °C)	1.67	MPa	ISO 37

Change in Tensile Strength in Air			
(70 °C, 168 hr)	-9.0	%	ISO 188
(70 °C, 168 hr)	-9.0	%	ASTM D573
(70 °C, 168 hr, 100%)	-4.0	%	ASTM D573
(70 °C, 168 hr, 100%)	-4.0	%	ISO 188
(100 °C, 168 hr)	-11	%	ISO 188
(100 °C, 168 hr)	-11	%	ASTM D573
(100 °C, 168 hr, 100%)	-2.0	%	ASTM D573
(100 °C, 168 hr, 100%)	-2.0	%	ISO 188
Tensile Set, (100%)	15	%	ASTM D412
Tensile Strength at Yield, (23 °C)	7.83	MPa	ASTM D412
Tensile Stress at Yield, (23 °C)	7.83	MPa	ISO 37
Change in Tensile Strain at Break			
(168 hr, 70 °C)	2.0	%	ISO 1817
(168 hr, 100 °C)	3.0	%	ISO 1817
Tensile Strain at Break, (23 °C)	370	%	ISO 37
Tensile Elongation at Break	370	%	ASTM D412
Tear Strength, (24 °C, Die C)	26.1	kN/m	ASTM D624
Impact			
Ductile/Brittle Transition Temperature	-65	°C	ISO 812
Hardness			
Shore Hardness, (Shore A, 5 sec)	68		ISO 868
Durometer Hardness, (Shore A, 5 sec)	68		ASTM D2240
Additional Information			
Compression Set			
(24 °C, 22 hr, Method B)	27	%	ASTM D395
(100 °C, 22 hr, Method B)	72	%	ASTM D395
(24 °C, 22 hr)	27	%	ISO 815
(100 °C, 22 hr)	72	%	ISO 815
(70 °C, 22 hr, Method B)	45	%	ASTM D395
(70 °C, 22 hr)	45	%	ISO 815
Taber Abrasion Resistance, (CS-17 Wheel, 1.0E+6 g, 1000 Cycles)	10.0	mg	ASTM D1044

Injection Parameters	Nominal Value	Units
Drying Time	3	hr
Drying Temperature	66	°C
Nozzle Temperature	204 to 221	°C
Screw Speed	25 to 100	rpm
Processing (Melt) Temp	199 to 221	°C
Front Temperature	216 to 227	°C
Middle Temperature	199 to 210	°C
Rear Temperature	188 to 199	°C
Mold Temperature	43 to 54	°C
Injection Pressure	1.03 to 4.14	MPa