

Technical Data Sheet

Duragrip DGR 6030BK

Thermoplastic Elastomer

LyondellBasell Industries

Engineering Plastics

Product Description

DuraGrip® DGR 6030BK is designed to be a general purpose Thermoplastic Elastomer (TPE) that is easy to use in injection molding and extrusion processes. DGR 6030BK has an excellent soft touch feel, will bond to olefinics, and is easy to color. DuraGrip® is not hygroscopic and under normal conditions does not require drying.

General		
Features	• General Purpose	• Good Colorability
Agency Ratings	• EU 2002/96/EC (WEEE)	
RoHS Compliance	• RoHS Compliant	
Forms	• Pellets	
Processing Method	• Extrusion	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	0.980	0.978 g/cm ³	ASTM D792
--	0.980 g/cm ³	0.980 g/cm ³	ISO 1183

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 G, Cs-17 Wheel	140 mg	140 mg	

Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Set (100% Strain)	2 %	2 %	ASTM D412
Tensile Stress			
100% Strain	120 psi	0.827 MPa	ASTM D412
100% Strain, 73°F (23°C)	120 psi	0.827 MPa	ISO 37
Tensile Strength (Yield, 73°F (23°C))	680 psi	4.69 MPa	ASTM D412 ISO 37
Tensile Elongation			
Break	730 %	730 %	ASTM D412
Break, 73°F (23°C)	730 %	730 %	ISO 37
Tear Strength ¹ (75°F (24°C))	108 lbf/in	18.9 kN/m	ASTM D624
Compression Set			ASTM D395B ISO 815
75°F (24°C), 22 Hr	14 %	14 %	
158°F (70°C), 22 Hr	35 %	35 %	
212°F (100°C), 22 Hr	51 %	51 %	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore A, 5 Sec)	32	32	ASTM D2240 ISO 868

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	-98.0 °F	-72.2 °C	ASTM D746 ISO 812

Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Change in Tensile Strength in Air			ASTM D573 ISO 188
158°F (70°C), 168 Hr	-6.0 %	-6.0 %	
212°F (100°C), 168 Hr	-4.0 %	-4.0 %	
Change in Tensile Modulus in Air			ASTM D573
158°F (70°C), 168 Hr	-18 %	-18 %	
212°F (100°C), 168 Hr	-18 %	-18 %	

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Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Change in Ultimate Elongation in Air			ASTM D573
158°f (70°c), 168 Hr	-4.0 %	-4.0 %	
212°f (100°c), 168 Hr	-3.0 %	-3.0 %	
Change in Volume			ASTM D471 ISO 1817
75°f (24°c), 168 Hr, In Reference Fuel B	22 %	22 %	
212°f (100°c), 168 Hr, In Astm #1 Oil	6.0 %	6.0 %	
212°f (100°c), 168 Hr, In Irm 903 Oil	70 %	70 %	
212°f (100°c), 168 Hr, In Water	-9.0 %	-9.0 %	
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Viscosity (374°f (190°c), 300 Sec ⁻¹)	129 Pa·s	129 Pa·s	ASTM D3835

Additional Information

The value listed as Density -Specific Gravity, ASTM D792, was tested in accordance with ASTM D471.
The value listed as Density, ISO 1183, was tested in accordance with ISO 2781.

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	150 °F	66 °C
Drying Time	3.0 hr	3.0 hr
Rear Temperature	370 to 390 °F	188 to 199 °C
Middle Temperature	390 to 410 °F	199 to 210 °C
Front Temperature	420 to 440 °F	216 to 227 °C
Nozzle Temperature	400 to 430 °F	204 to 221 °C
Processing (Melt) Temp	390 to 430 °F	199 to 221 °C
Mold Temperature	110 to 130 °F	43 to 54 °C
Injection Pressure	150 to 600 psi	1.03 to 4.14 MPa
Screw Speed	25 to 100 rpm	25 to 100 rpm

Injection Notes

- DuraGrip® is not hygroscopic, under normal conditions does not require drying. Dry in a desiccant dryer if porosity is observed.
- Injection Speed: 1 to 3 in³/sec
- Injection Time (1st Stage/Boost): 0.5 to 4 sec
- Second Stage Pressure: 150 to 300 psi
- Second Stage Time: 3 to 10 sec
- Cooling Time: 10 to 20 sec
- Back Pressure: 20 to 75 %