

Technical Data Sheet



Duragrip DGR 6185BK

Thermoplastic Elastomer
LyondellBasell Industries
Engineering Plastics

Product Description

DuraGrip® 6185BK is a black, special purpose Melt Processible Elastomer (MPE) that is easy to use in injection molding and extrusion processes. DGR 6185BK has an excellent soft touch feel and will Bond to varying Nylons, ABS, PC, PC/ABS. DuraGrip™ 6100 series is hygroscopic and requires drying prior to use.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Features	• Good Adhesion	• Soft	
Appearance	• Black		
Processing Method	• Extrusion	• Injection Molding	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.14	1.14 g/cm³	ASTM D471
--	1.14 g/cm³	1.14 g/cm³	ISO 2781
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Taber Abrasion Resistance			ASTM D3389
1000 Cycles, 1000 g, CS-17 Wheel	160 mg	160 mg	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Set (100% Strain)	19 %	19 %	ASTM D412
Tensile Stress (100% Strain, 73°F (23°C))	1460 psi	10.1 MPa	ASTM D412 ISO 37
Tensile Strength (Yield, 73°F (23°C))	2130 psi	14.7 MPa	ASTM D412 ISO 37
Tensile Elongation (Break, 73°F (23°C))	260 %	260 %	ASTM D412 ISO 37
Tear Strength ¹ (75°F (24°C))	310 lbf/in	54.3 kN/m	ASTM D624
Compression Set			ASTM D395 ISO 815
75°F (24°C), 22 hr	23 %	23 %	
158°F (70°C), 22 hr	65 %	65 %	
212°F (100°C), 22 hr	82 %	82 %	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore A, 5 sec)	85	85	ASTM D2240 ISO 48
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	-60.0 °F	-51.1 °C	ASTM D746 ISO 812
Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Change in Tensile Strength in Air			
158°F (70°C), 168 hr	-16 %	-16 %	ASTM D573 ISO 188
100% Strain, 158°F (70°C), 168 hr	-4.0 %	-4.0 %	ASTM D573
212°F (100°C), 168 hr	-19 %	-19 %	ASTM D573 ISO 188
100% Strain, 212°F (100°C), 168 hr	-6.0 %	-6.0 %	ASTM D573
100% Strain 158°F (70°C), 168 hr	-4.0 %	-4.0 %	ISO 188
100% Strain 212°F (100°C), 168 hr	-6.0 %	-6.0 %	ISO 188
Change in Ultimate Elongation in Air			ASTM D573 ISO 188
158°F (70°C), 168 hr	-15 %	-15 %	
212°F (100°C), 168 hr	-21 %	-21 %	

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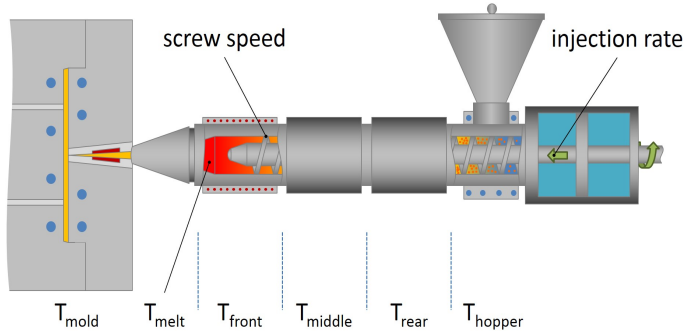
Aging	Nominal Value (English)	Nominal Value (SI)	Test Method
Change in Volume			ASTM D471 ISO 1817
75°F (24°C), 168 hr, in Reference Fuel B	87 %	87 %	
158°F (70°C), 168 hr, in ASTM #1 Oil	27 %	27 %	
158°F (70°C), 168 hr, in IRM 903 Oil	130 %	130 %	
158°F (70°C), 168 hr, in Water	1.0 %	1.0 %	
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Viscosity (374°F (190°C), 300 sec ⁻¹)	1060 Pa·s	1060 Pa·s	ASTM D3835

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature - Desiccant Dryer	150 °F	66 °C
Drying Time - Desiccant Dryer	3.0 hr	3.0 hr
Rear Temperature	400 to 430 °F	204 to 221 °C
Middle Temperature	420 to 440 °F	216 to 227 °C
Front Temperature	440 to 460 °F	227 to 238 °C
Nozzle Temperature	440 to 480 °F	227 to 249 °C
Processing (Melt) Temp	440 to 490 °F	227 to 254 °C
Mold Temperature	110 to 130 °F	43 to 54 °C
Injection Pressure	150 to 500 psi	1.03 to 3.45 MPa
Screw Speed	25 to 100 rpm	25 to 100 rpm

Injection Notes

Injection Speed: 1 to 3 in³/sec
Injection Time (1st Stage/Boost): 0.5 to 2 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 50 %

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Notes

¹ Die C

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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