

DuraGrip 6040NCNAT

LyondellBasell Industries - Thermoplastic Elastomer

General Information

Product Description

DuraGrip DGR 6040 NC is designed to be a general-purpose Thermoplastic Elastomer (TPE) that is easy to use in an injection molding process. DGR 6040NC has an excellent soft touch feel and will bond to olefinics. DuraGrip is not hygroscopic and under normal conditions does not require drying.

General

Uses	• General Purpose
Forms	• Pellets
Processing Method	• Injection Molding

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.990		ASTM D792
Density	0.988	g/cm ³	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance 1000 Cycles, 1.0E+6 g, CS-17 Wheel	120	mg	ASTM D1044
Elastomers	Nominal Value	Unit	Test Method
Tensile Set (100% Strain)	7	%	ASTM D412
Tensile Stress (100% Strain)	180	psi	ASTM D412
Tensile Stress (100% Strain, 73°F)	180	psi	ISO 37
Tensile Strength (Yield, 73°F)	751	psi	ASTM D412
Tensile Stress (Yield, 73°F)	751	psi	ISO 37
Tensile Elongation (Break)	450	%	ASTM D412
Tensile Elongation (Break, 73°F)	450	%	ISO 37
Tear Strength ² (75°F)	86.8	lbf/in	ASTM D624
Compression Set			ASTM D395B
75°F, 22 hr	14	%	
158°F, 22 hr	34	%	
212°F, 22 hr	62	%	
Compression Set			ISO 815
75°F, 22 hr	14	%	
158°F, 22 hr	34	%	
212°F, 22 hr	62	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 5 sec)	42		ASTM D2240
Shore Hardness (Shore A, 5 sec)	42		ISO 868
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-89.0	°F	ASTM D746
Brittleness Temperature	-89.0	°F	ISO 812

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air			ASTM D573
158°F, 168 hr	-6.0	%	
100% Strain, 158°F, 168 hr	-6.0	%	
212°F, 168 hr	-11	%	
100% Strain, 212°F, 168 hr	-4.0	%	
Change in Tensile Strength in Air			ISO 188
158°F, 168 hr	-6.0	%	
100% Strain 158°F, 168 hr	-6.0	%	
212°F, 168 hr	-11	%	
100% Strain 212°F, 168 hr	-4.0	%	
Change in Ultimate Elongation in Air			ASTM D573
158°F, 168 hr	4.0	%	
212°F, 168 hr	1.0	%	
Change in Tensile Strain at Break			ISO 1817
158°F, 168 hr	4.0	%	
212°F, 168 hr	1.0	%	
Change in Volume			ASTM D471
75°F, 168 hr, in Reference Fuel B	15	%	
212°F, 168 hr, in ASTM #1 Oil	4.0	%	
212°F, 168 hr, in IRM 903 Oil	45	%	
212°F, 168 hr, in Water	-10	%	
Change in Volume			ISO 1817
75°F, 168 hr, in Reference Fuel B	15	%	
212°F, 168 hr, in ASTM #1 Oil	4.0	%	
212°F, 168 hr, in IRM 903 Oil	45	%	
212°F, 168 hr, in Water	-10	%	
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (374°F, 300 sec ⁻¹)	112	Pa·s	ASTM D3835

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	151	°F
Drying Time	3.0	hr
Rear Temperature	370 to 390	°F
Middle Temperature	390 to 410	°F
Front Temperature	421 to 441	°F
Nozzle Temperature	399 to 430	°F
Processing (Melt) Temp	390 to 430	°F
Mold Temperature	109 to 129	°F
Injection Pressure	149 to 600	psi
Screw Speed	25 to 100	rpm

Notes

¹ Typical properties: these are not to be construed as specifications.

² Die C