

PolyOne OnFlex™ BIO 5380A-E0006 Thermoplastic Elastomer (TPE)

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Elastomer , TPE

Material Notes:

OnFlex™ BIO 5300 series thermoplastic elastomer compounds are soft thermoplastic polyurethane compounds made from renewable natural sources. These compounds contain at least 20% of renewable material as certified according to ASTM-D6866. The OnFlex™ BIO 5300 series compounds are formulated to provide an excellent surface finish, soft-touch haptic, abrasion resistance and mechanical properties. Properties are measured using injection molded plaques. Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-OnFlex-BIO-5380A-E0006-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Density	1.07 g/cc	0.0387 lb/in ³	ISO 1183

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	80	80	ISO 868
Tensile Strength at Break	19.8 MPa	2870 psi	Type 1, 200 mm/min; Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
	20.0 MPa	2900 psi	Type 1, 200 mm/min Across Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
Tensile Stress	4.40 MPa	638 psi	Type 1, 200 mm/min Across Flow; DIN 53504
	@Strain 100 %, Thickness 2.00 mm	@Strain 100 %, Thickness 0.0787 in	
	4.50 MPa	653 psi	Type 1, 200 mm/min; Flow; DIN 53504
	@Strain 100 %, Thickness 2.00 mm	@Strain 100 %, Thickness 0.0787 in	
	10.0 MPa	1450 psi	Type 1, 200 mm/min Across Flow; DIN 53504
	@Strain 300 %, Thickness 2.00 mm	@Strain 300 %, Thickness 0.0787 in	
	10.2 MPa	1480 psi	Type 1, 200 mm/min; Flow; DIN 53504
	@Strain 300 %, Thickness 2.00 mm	@Strain 300 %, Thickness 0.0787 in	
Elongation at Break	500 %	500 %	Type 1, 200 mm/min; Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
	520 %	520 %	

Mechanical Properties	Metric	English	Comments
	@ Thickness 2.00 mm, Temperature 23.0 °C	@ Thickness 0.0787 in, Temperature 73.4 °F	Type 1, 200 mm/min Across Flow; DIN 53516
Tear Strength	64.0 kN/m	365 pli	Method A, Trouser; Across Flow; ISO 34-1
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
	64.0 kN/m	365 pli	Method A, Trouser; Flow; ISO 34-1
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
Abrasion	38	38	[mm³]; DIN 53516
Compression Set	47 %	47 %	ISO 815
	@Temperature 23.0 °C, Time 259000 sec	@Temperature 73.4 °F, Time 72.0 hour	
	71 %	71 %	ISO 815
	@Temperature 70.0 °C, Time 79200 sec	@Temperature 158 °F, Time 22.0 hour	
	84 %	84 %	ISO 815
	@Temperature 100 °C, Time 79200 sec	@Temperature 212 °F, Time 22.0 hour	

Processing Properties	Metric	English	Comments
Melt Temperature	180 - 220 °C	356 - 428 °F	
Mold Temperature	30.0 - 60.0 °C	86.0 - 140 °F	
Drying Temperature	100 - 120 °C	212 - 248 °F	
Dry Time	1.00 - 2.00 hour	1.00 - 2.00 hour	

Descriptive Properties	Value	Comments
Features	Good Abrasion Resistance	
	Renewable Resource Content	
	Scratch Resistant	
Forms	Pellets	
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Injection Rate	Fast	
Manufacturer / Supplier		

Descriptive Properties	GLS Thermoplastic Elastomers Value	Comments
Odor rating	3.2	VDA 270; Method A3
Processing Method	Calendering	
	Extrusion	
	Injection Molding	
	Multi Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Consumer Applications	
	General Purpose	

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