OnFlex™ BIO 5380A-E0006

Thermoplastic Elastomer

Key Characteristics

Product Description

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.

General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Abrasion Resistant	• Good Scratch Resistance	• Renewable Resource Content
Uses	• Automotive Applications	• Consumer Applications	• General Purpose
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Calendering • Extrusion	• Injection Molding • Multi Injection Molding	

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.07 g/cm³	1.07 g/cm³	ISO 1183
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Abrasion Loss	38.0 mm³	38.0 mm³	DIN 53516
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2]			DIN 53504
Across Flow : 100% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	638 psi	4.40 MPa	
Flow : 100% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	653 psi	4.50 MPa	
Tensile Stress [2]			DIN 53504
Across Flow : 300% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	1450 psi	10.0 MPa	
Flow : 300% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	1480 psi	10.2 MPa	
Tensile Stress [2]			DIN 53504
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	2900 psi	20.0 MPa	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	2870 psi	19.8 MPa	
Tensile Elongation [2]			DIN 53504
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	520 %	520 %	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	500 %	500 %	

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tear Strength [3]			ISO 34-1
Across Flow : 73°F (23°C), 0.0787 in (2.00 mm)	363 lbf/in	63.5 kN/m	
Flow : 73°F (23°C), 0.0787 in (2.00 mm)	364 lbf/in	63.8 kN/m	
Compression Set			ISO 815
73°F (23°C), 72 hr	47 %	47 %	
158°F (70°C), 22 hr	71 %	71 %	
212°F (100°C), 22 hr	84 %	84 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Shore Hardness (Shore A, 10 sec)	80	80	ISO 48-4
Additional Information	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Odor Rating [4]	3.2	3.2	VDA 270

Properties are measured using injection molded plaques.

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	212 to 248 °F	100 to 120 °C
Drying Time	1.0 to 2.0 hr	1.0 to 2.0 hr
Processing (Melt) Temp	356 to 428 °F	180 to 220 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Fast	Fast

Notes

[1] Typical values are not to be construed as specifications.

[2] Type 1, 7.9 in/min (200 mm/min)

[3] Method A, Trouser

[4] Method A3

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