



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	• Good Abrasion Resistance	• Renewable Resource Content	• Scratch Resistant
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/cm ³	1.07 g/cm ³	ISO 1183
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Abrasion Loss	38.0 mm ³	38.0 mm ³	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 %	
Tear Strength ³			ISO 34-1
Across Flow : 73°F (23°C), 0.0787 in (2.00 mm)	360 lbf/in	64 kN/m	
Flow : 73°F (23°C), 0.0787 in (2.00 mm)	360 lbf/in	64 kN/m	

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
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)	80	80	ISO 868
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	86.0 to 140 °F	30.0 to 60.0 °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

CONTACT INFORMATION

Americas

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 815 385 8500

Asia

China - Guangzhou
+86 20 8732 7260

China - Shenzhen
+86 755 2969 2888

China - Suzhou
+86 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

Taiwan - Yonghe City,
+886 9396 99740, +886 2929 1849

Europe

Germany - Gaggenau
+49 7225 6802 0

Spain - Barbastro (Huesca)
+34 974 310 314



Beyond Polymers.

Better Business Solutions.™

www.polyone.com

PolyOne Americas

33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

PolyOne Asia

No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 21 5080 1188

PolyOne Europe

6 Giallewee
+352 269 050 35

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