



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/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

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