

Elastollan® 1180A10

Thermoplastic Polyurethane Elastomer (Polyether)

BASF Corp. Thermoplastic Polyurethanes

Message:

Elastollan® 1180A is specifically formulated for extruded profile, sheet and film applications. Elastollan® 1180A exhibits excellent abrasion resistance, toughness, transparency, very good low temperature flexibility, hydrolytic stability and fungus resistance. It has excellent damping characteristics and outstanding resistance to tear propagation. Elastollan® 1180A is rated UL-94 HB in vertical flame test for wall thickness of 0.83 mm. Elastollan® 1180A also conforms to the FDA food contact section, book 21, section 177.2600. Elastollan® 1180A also has NSF Standard 61 "Water Contact Material" certification. Elastollan® 1180A is supplied uncolored in diced or pelletized form.

| General Information | | | |
|-------------------------------------|-----------------------------|-------------------|-----------------|
| Features | Food Contact Acceptable | | |
| | Fungus Resistant | | |
| | Good Abrasion Resistance | | |
| | Good Tear Strength | | |
| | Good Toughness | | |
| | Hydrolytically Stable | | |
| | Low Temperature Flexibility | | |
| Agency Ratings | FDA 21 CFR 177.2600 | | |
| | NSF 61 | | |
| Appearance | Clear/Transparent | | |
| Processing Method | Extrusion | | |
| | Injection Molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | 1.11 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) | | | ASTM D1238 |
| 190°C/21.6 kg | 20 to 50 | g/10 min | |
| 190°C/8.7 kg | 10 to 20 | g/10 min | |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore A) | 80 | | ASTM D2240 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus (Injection Molded) | 12.4 | MPa | ASTM D412 |
| Flexural Modulus (Injection Molded) | 17.2 | MPa | ASTM D790 |
| Taber Abrasion Resistance | 25.0 | mg | ASTM D1044 |
| Abrasion - DIN | 25 | mm ³ | DIN 53516 |
| Softening Point - DMA | 53 | °C | Internal Method |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress | | | ASTM D412 |

| | | | |
|------------------------------|----------------------|-------------|--------------------|
| 100% Strain | 6.21 | MPa | |
| 300% Strain | 14.5 | MPa | |
| Tensile Strength | 33.8 | MPa | ASTM D412 |
| Tensile Elongation (Break) | 590 | % | ASTM D412 |
| Tear Strength ¹ | 96.3 | kN/m | ASTM D624 |
| Compression Set | | | ASTM D395B |
| 23°C, 22 hr | 25 | % | |
| 70°C, 22 hr | 45 | % | |
| Thermal | Nominal Value | Unit | Test Method |
| Glass Transition Temperature | -40.0 | °C | Internal Method |
| Vicat Softening Temperature | 90.0 | °C | ASTM D1525 |
| Flammability | Nominal Value | | Test Method |
| Flame Rating (0.830 mm) | HB | | UL 94 |
| Injection | Nominal Value | Unit | |
| Drying Temperature | 100 to 110 | °C | |
| Drying Time | 2.0 to 3.0 | hr | |
| Suggested Max Moisture | 0.030 | % | |
| Rear Temperature | 170 to 210 | °C | |
| Middle Temperature | 170 to 210 | °C | |
| Front Temperature | 170 to 210 | °C | |
| Nozzle Temperature | 200 to 210 | °C | |
| Extrusion | Nominal Value | Unit | |
| Drying Temperature | 100 to 110 | °C | |
| Drying Time | 2.0 to 3.0 | hr | |
| Cylinder Zone 1 Temp. | 160 to 200 | °C | |
| Cylinder Zone 3 Temp. | 160 to 200 | °C | |
| Cylinder Zone 5 Temp. | 160 to 200 | °C | |
| Adapter Temperature | 175 to 200 | °C | |
| Die Temperature | 175 to 205 | °C | |
| NOTE | | | |
| 1. | Die C | | |

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