



## Elastollan® 1180A10

BASF Corp. Thermoplastic Polyurethanes - Thermoplastic Polyurethane Elastomer (Polyether)

Monday, March 02, 2009

### General Information

#### Product Description

Elastollan® 1180A10 is a polyether-based thermoplastic polyurethane (TPU). It is specifically formulated for extruded profile, sheet and film applications. It exhibits excellent abrasion resistance, toughness, transparency, low temperature properties, hydrolytic stability, and fungus resistance. Elastollan® 1180A10 is conforming to the FDA food contact section, book 21, section 177.2600. As with all TPU products, Elastollan® 1180A10 must be dried before processing. The drying step is required to maintain a low moisture content until the product enters the processing equipment. The water content must be less than 0.03% before and during processing. The typical drying conditions should be 2-4 hours @ 175°-195°F (80°-90°C). Elastollan® 1180A10 can be stored for up to 1 year in its original container. Containers should be stored in a cool and dry area.

#### General

Material Status	• Commercial: Active
Availability	• North America
Features	• Fungus Resistant • Good Toughness • Good Abrasion Resistance • Hydrolytically Stable
Uses	• Film • Profiles • Sheet
Agency Ratings	• FDA 21 CFR 177.2600
Appearance	• Clear/Transparent
Forms	• Pellets
Processing Method	• Extrusion

#### ASTM and ISO Properties <sup>1</sup>

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.11	1.11	ASTM D792
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	1700 psi	11.7 MPa	ASTM D638
Flexural Modulus	2800 psi	19.3 MPa	ASTM D790
Taber Abrasion Resistance 1000 g, H-18 Wheel	25.0 mg	25.0 mg	ASTM D1044
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress			ASTM D412
100% Strain	800 psi	5.52 MPa	
300% Strain	1500 psi	10.3 MPa	
Tensile Strength (Break)	4700 psi	32.4 MPa	ASTM D412
Tensile Elongation (Break)	600 %	600 %	ASTM D412
Elongation Set After Break	45 %	45 %	ASTM D412
Tear Strength <sup>2</sup>	520 lbf/in	90 kN/m	ASTM D624
Compression Set			ASTM D395B
73°F (23°C), 22.0 hr	25 %	25 %	
158°F (70°C), 22.0 hr	45 %	45 %	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore A)	80	80	ASTM D2240

#### Additional Information

The value listed as Tensile Modulus ASTM D638, was tested in accordance with E-Modulus ASTM D412.

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<b>Processing Information</b>		
<b>Extrusion</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>
Drying Temperature	175 to 195 °F	79.4 to 90.6 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.030 %	0.030 %
Melt Temperature	340 to 380 °F	171 to 193 °C

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## Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C

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