



OnFlex™-U 5150D-S0049

Thermoplastic Polyurethane Elastomer

Key Characteristics

Product Description

OnFlex™-U Thermoplastic Elastomer Compounds are based on thermoplastic polyurethane elastomers (TPE-U). The OnFlex™-U 5100 series combines glass fibres with TPE-U to provide outstanding stiffness, abrasion resistance and other unique mechanical properties. OnFlex™-U 5100 compounds are formulated to deliver excellent abrasion resistance, impact resistance, a low coefficient of thermal expansion and excellent mechanical properties.

General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Filler / Reinforcement	• Glass Fiber Reinforcement, 20% Filler by Weight		
Features	• Good Abrasion Resistance	• Good Dimensional Stability	• Good Stiffness
Uses	• Automotive Applications • Construction Applications	• Consumer Applications • General Purpose	• Industrial Applications
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.24 g/cm ³	1.24 g/cm ³	ISO 1183
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Flexural Modulus	29000 psi	200 MPa	ISO 178
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress (Break)	4600 psi	31.7 MPa	ISO 37
Tensile Elongation (Break)	67 %	67 %	ISO 37
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength -40°F (-40°C)	28.7 ft-lb/in ²	60.4 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength -40°F (-40°C)	No Break	No Break	ISO 179
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Shore Hardness (Shore D)	50	50	ISO 868

Additional Properties

Properties are measured using injection molded plaques.

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	212 °F	100 °C
Drying Time	2.0 hr	2.0 hr
Processing (Melt) Temp	437 to 482 °F	225 to 250 °C
Mold Temperature	86.0 to 140 °F	30.0 to 60.0 °C
Injection Rate	Slow	Slow

Notes

¹ Typical values are not to be construed as specifications.

Copyright © 2008 PolyOne Corporation. PolyOne makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. PolyOne makes no warranties or guarantees respecting suitability of either PolyOne's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. POLYONE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This data sheet shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.

CONTACT INFORMATION

Americas

Argentina - Buenos Aires
+0054 11 4200 5917

Brasil - Campinas
+55 19 3206 0561

Mexico - Toluca
+52 722 2790200

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 (815) 385-8500

Asia

China - Shenzhen
+86 (0) 755 2969 2888

China - Suzhou
+86 (0) 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

India - Mumbai
+91 9820 194 220

Taiwan - Yonghe City,
+886 9396 99740

Europe

Germany - Gaggenau
+49 (0) 7225 6802 0

Netherlands - The Netherlands
+31 (0) 165 331 293

Spain - Barbastro (Huesca)
+34 (0) 9 7431 0314

Turkey - Cekmece-Istanbul-Türkiye
+90 (0) 212 549 2256



Beyond Polymers.

Better Business Solutions. SM

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 (0) 21 5080 1188

PolyOne Europe

2 Rue Melville Wilson
5330 Assesse, Belgium
+32 (0) 83 660 211