



OnFlex™-U 5165D-S0002

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, 15% 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 Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.28 g/cm ³	1.28 g/cm ³	ISO 1183
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Flexural Modulus	110000 psi	760 MPa	ISO 178
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress (Break)	6960 psi	48.0 MPa	ISO 37
Tensile Elongation (Break)	36 %	36 %	ISO 37
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	24.5 ft-lb/in ²	51.5 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength 73°F (23°C)	No Break	No Break	ISO 179
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Shore Hardness (Shore D)	65	65	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.

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