



OnFlex™-U 5160D-S0006

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 • Consumer Applications • Industrial Applications • Construction Applications • General Purpose
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.35 g/cm ³	1.35 g/cm ³	ISO 1183
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Flexural Modulus	145000 psi	1000 MPa	ISO 178
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress (Break)	9430 psi	65.0 MPa	ISO 37
Tensile Elongation (Break)	39 %	39 %	ISO 37
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179
-40°F (-40°C)	4.38 ft·lb/in ²	9.20 kJ/m ²	
73°F (23°C)	30.1 ft·lb/in ²	63.3 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179
-40°F (-40°C)	47.5 ft·lb/in ²	99.8 kJ/m ²	
73°F (23°C)	No Break	No Break	
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Shore Hardness (Shore D)	60	60	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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