OnFlex™ U 5470A-E0083

Thermoplastic Elastomer

Key Characteristics

Product Description			
OnFlex™-U thermoplastic elastomer compounds are based on thermoplastic polyurethane elastomers (TPE-U). The OnFlex™-U 5400 series are based upon alloys of SEBS and aliphatic TPU, combining the advantages of both raw materials, for example the good processability and soft haptic of a TPE-S with the excellent mechanical properties and abrasion resistance of a TPE-U. OnFlex™-U 5400 compounds are formulated to deliver very good scratch resistance, a wide hardness range, good chemical resistance, and good light stability.			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Abrasion Resistant • Good Scratch Resistance	• Oil Resistant • UV Resistant	
Uses	• Automotive Applications • Consumer Applications	• General Purpose • Industrial Applications	• Power/Other Tools
RoHS Compliance	• RoHS Compliant		
Appearance	• Matte Finish		
Forms	• Pellets		
Processing Method	• Calendering	• Film Extrusion	• Injection Molding

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.08 g/cm³	1.08 g/cm³	ISO 1183
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Abrasion Loss	35.0 mm³	35.0 mm³	DIN 53516
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2]			ISO 37
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	3080 psi	21.3 MPa	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	3210 psi	22.2 MPa	
Tensile Elongation [2]			ISO 37
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	480 %	480 %	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	490 %	490 %	
Tear Strength [3]			ISO 34-1
Across Flow : 73°F (23°C), 0.0787 in (2.00 mm)	321 lbf/in	56.3 kN/m	
Flow : 73°F (23°C), 0.0787 in (2.00 mm)	335 lbf/in	58.7 kN/m	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Shore Hardness (Shore A)	70	70	ISO 868
Flammability	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Fogging (212°F (100°C))	1.1 mg	1.1 mg	DIN 75201B

Additional Information	Typical Value (English)	Typical Value (SI)	Test Method
Generic Material Type	Thermoplastic Polyurethane Elastomer Alloy (TPU Alloy)	Thermoplastic Polyurethane Elastomer Alloy (TPU Alloy)	
Odor Rating	2.30	2.30	VDA 270

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	320 to 392 °F	160 to 200 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Slow	Slow

Notes

[1] Typical values are not to be construed as specifications.

[2] Type 2, 7.9 in/min (200 mm/min)

[3] Method A, Trouser, 20 in/min (500 mm/min)

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