OnFlex™ HT 50A-3S2099

Thermoplastic Elastomer

Key Characteristics

Product Description

OnFlex™ HT thermoplastic elastomer compounds are based on hydrogenated styrenic block copolymers. This range of compounds is specially formulated to deliver very good compression set performance at elevated temperatures and a high heat resistance. Furthermore, OnFlex™ S HT compounds are in compliance with EN 681-2 and offer excellent mechanical properties, a wide hardness range and good processability.

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• High Heat Resistance	• Low Compression Set	• Ozone Resistant
Uses	• Pipe Seals		
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.00 g/cm³	1.00 g/cm³	ISO 1183
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress			ISO 37
Across Flow : 100% Strain	160 psi	1.10 MPa	
Flow : 100% Strain	247 psi	1.70 MPa	
Tensile Stress			ISO 37
Across Flow : 300% Strain	276 psi	1.90 MPa	
Flow : 300% Strain	421 psi	2.90 MPa	
Tensile Stress [2]			DIN 53504
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	1360 psi	9.40 MPa	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	754 psi	5.20 MPa	
Tensile Elongation [2]			DIN 53504
Across Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	800 %	800 %	
Flow : Break, 73°F (23°C), 0.0787 in (2.00 mm)	560 %	560 %	
Tear Strength	154 lbf/in	27.0 kN/m	ISO 34-1
Compression Set			ISO 815
14°F (-10°C), 22 hr	36 %	36 %	
14°F (-10°C), 72 hr	50 %	50 %	
73°F (23°C), 72 hr	20 %	20 %	
158°F (70°C), 22 hr	27 %	27 %	
212°F (100°C), 22 hr	42 %	42 %	
257°F (125°C), 22 hr	46 %	46 %	
302°F (150°C), 22 hr	69 %	69 %	

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Stress Relaxation			ISO 3384
73°F (23°C) [3]	24 %	24 %	
73°F (23°C) [4]	13 %	13 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Shore Hardness (Shore A, 10 sec)	50	50	ISO 48-4
IRHD Hardness	60	60	ISO 48
Aging	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Change in Tensile Strength in Air			DIN 53504
158°F (70°C), 168 hr, 0.0787 in (2.00 mm)	-3.0 %	-3.0 %	
Change in Tensile Strain at Break in Air			DIN 53504
158°F (70°C), 168 hr, 0.0787 in (2.00 mm)	3.0 %	3.0 %	
Change in Shore Hardness in Air			DIN 53505
Shore A, 158°F (70°C), 168 hr	3.0	3.0	
Change in Volume			ISO 1817
158°F (70°C), 72 hr, in ASTM #1 Oil	16 %	16 %	
158°F (70°C), 168 hr, in Water	-0.60 %	-0.60 %	
Additional Information	**Typical Value (English)**	**Typical Value (SI)**	
Generic Material Type	Styrenic Thermoplastic Elastomer (TES)	Styrenic Thermoplastic Elastomer (TES)	

Properties are measured using injection molded plaques.

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Processing (Melt) Temp	356 to 428 °F	180 to 220 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Fast	Fast

Notes

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

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

[3] 100d, 25% compression, Method A

[4] 168hrs, 25% compression, Method A

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