

PolyOne OnFlex™ HT 50A-3S2099 Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer , TPE

Material Notes:

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. Properties are measured using injection molded plaques. Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-OnFlex-HT-50A-3S2099-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Density	1.00 g/cc	0.0361 lb/in ³	ISO 1183

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	60	60	IRHD; ISO 48
	50	50	Injection Molded; DIN 53505
Tensile Strength at Break	5.20 MPa	754 psi	200 mm/min Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
Tensile Stress	9.40 MPa	1360 psi	200 mm/min Across Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
Tensile Stress	1.10 MPa	160 psi	Across Flow; ISO 37
	@Strain 100 %	@Strain 100 %	
Tensile Stress	1.70 MPa	247 psi	Flow; ISO 37
	@Strain 100 %	@Strain 100 %	
Tensile Stress	1.90 MPa	276 psi	Across Flow; ISO 37
	@Strain 300 %	@Strain 300 %	
Tensile Stress	2.90 MPa	421 psi	Flow; ISO 37
	@Strain 300 %	@Strain 300 %	
Elongation at Break	560 %	560 %	200 mm/min Flow; DIN 53504
	@Thickness 2.00 mm, Temperature 23.0 °C	@Thickness 0.0787 in, Temperature 73.4 °F	
Elongation at Break	800 %	800 %	

Mechanical Properties	Metric	English	Comments
	@ Thickness 2.00 mm, Temperature 23.0 °C	@ Thickness 0.0787 in, Temperature 73.4 °F	250 mm/min Across Flow; DIN 53504
Compression Set	20 % @Temperature 23.0 °C, Time 259000 sec	20 % @Temperature 73.4 °F, Time 72.0 hour	ISO 815
	27 % @Temperature 70.0 °C, Time 79200 sec	27 % @Temperature 158 °F, Time 22.0 hour	ISO 815
	36 % @Temperature -10.0 °C, Time 79200 sec	36 % @Temperature 14.0 °F, Time 22.0 hour	ISO 815
	42 % @Temperature 100 °C, Time 79200 sec	42 % @Temperature 212 °F, Time 22.0 hour	ISO 815
	46 % @Temperature 125 °C, Time 79200 sec	46 % @Temperature 257 °F, Time 22.0 hour	ISO 815
	50 % @Temperature -10.0 °C, Time 259000 sec	50 % @Temperature 14.0 °F, Time 72.0 hour	ISO 815
	69 % @Temperature 150 °C, Time 79200 sec	69 % @Temperature 302 °F, Time 22.0 hour	ISO 815

Processing Properties	Metric	English	Comments
Melt Temperature	180 - 220 °C	356 - 428 °F	
Mold Temperature	30.0 - 60.0 °C	86.0 - 140 °F	

Descriptive Properties	Value	Comments
Change in Shore Hardness in Air	3 Shore A	DIN 53505; Shore A, 70°C, 168 hr
Change in Tensile Strain at Break in Air	3%	DIN 53504; 70°C, 168 hr, 2.00 mm
Change in Tensile Strength in Air	-3%	DIN 53504; 70°C, 168 hr, 2.00 mm
Change in Volume	-0.6%	ISO 1817; 70°C, 168 hr, in Water
	16%	ISO 1817; 70°C, 72 hr, in ASTM #1 Oil

Descriptive Properties	High Heat Resistance Value	Comments
	Low Compression Set	
	Ozone Resistant	
Forms	Pellets	
Generic Material	TPE	
Generic Material Type	Styrenic Thermoplastic Elastomer (TES)	
Generic Name	Thermoplastic Elastomer (TPE)	
Injection Rate	Fast	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
RoHS Compliance	RoHS Compliant	
Stress Relaxation	13%	ISO 3384; 23°C; 168hrs, 25% compression, Method A
	24%	ISO 3384; 23°C; 100d, 25% compression, Method A
Uses	Pipe Seals	

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