

Alliance Polymers Zythane™ 4090A Thermoplastic Polyurethane Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane TPE

Material Notes:

Zythane™ 4090A is a polycaprolactone-based TPU specifically formulated for injection molding applications .It exhibits excellent low compression set, abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form. Availability: North America Features: Fuel Resistant, Good Toughness, Oil Resistant, Hydrolytically Stable, Solvent Resistant, Good Abrasion Resistance Appearance: Colorless Forms: Pellets Processing Method: Injection Molding Information provided by Alliance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Alliance-Polymers-Zythane-4090A-Thermoplastic-Polyurethane-Elastomer.php

Physical Properties	Metric	English	Comments
Density	1.23 g/cc	0.0444 lb/in ³	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	90	90	ASTM D2240
Hardness, Shore D	40	40	ASTM D2240
Tensile Strength at Break	49.0 MPa	7110 psi	ASTM D412
Tensile Stress	7.03 MPa @Strain 100 %	1020 psi @Strain 100 %	ASTM D412
	19.0 MPa @Strain 300 %	2760 psi @Strain 300 %	ASTM D412
Elongation at Break	560 %	560 %	ASTM D412
Tear Strength	90.1 kN/m	514 pli	Die C; ASTM D412
Taber Abrasion, mg/1000 Cycles	23	23	ASTM D1044
Abrasion	22	22	mm ³ ; DIN 53516
Compression Set	23 % @Temperature 22.8 °C, Time 79200 sec	23 % @Temperature 73.0 °F, Time 22.0 hour	ASTM D3995B
	43 % @Temperature 70.0 °C, Time 259000 sec	43 % @Temperature 158 °F, Time 72.0 hour	ASTM D3995B

Thermal Properties	Metric	English	Comments
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Vicat Softening Point Thermal Properties	132 °C Metric	270 °F English	ASTM D1525 Comments
Brittleness Temperature	-31.0 °C	-23.8 °F	ASTM D746
Flammability, UL94	HB	HB	
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Processing Temperature	205 - 215 °C	401 - 419 °F	Injection
Rear Barrel Temperature	185 °C	365 °F	Injection
Middle Barrel Temperature	200 °C	392 °F	Injection
Front Barrel Temperature	205 °C	401 °F	Injection
Nozzle Temperature	205 - 215 °C	401 - 419 °F	Injection
Mold Temperature	25.0 - 60.0 °C	77.0 - 140 °F	Injection
Injection Velocity	>= 10.0 mm/sec	>= 0.394 in/sec	Injection
Drying Temperature	85.0 °C	185 °F	Injection
Dry Time	4.00 hour	4.00 hour	Injection
Back Pressure	0.499 - 1.00 MPa	72.4 - 145 psi	Injection
Clamp Pressure	40.0 - 70.3 MPa	5800 - 10200 psi	Injection
Screw Speed	60 - 200 rpm	60 - 200 rpm	Injection

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