

Alliance Polymers Zythane™ 5090A Thermoplastic Polyurethane Elastomer

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

Material Notes:

Zythane™ 5090A 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 AmericaFeatures: Fuel Resistant, Good Toughness, Oil Resistant, Hydrolytically Stable, Solvent Resistant, Good Abrasion Resistance Appearance: ColorlessForms: PelletsProcessing Method: Injection Molding and ExtrusionInformation provided by Alliance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Alliance-Polymers-Zythane-5090A-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	44.0 MPa	6380 psi	ASTM D412
Tensile Stress	6.00 MPa	870 psi	ASTM D412
	@Strain 100 %	@Strain 100 %	
	17.0 MPa	2470 psi	ASTM D412
	@Strain 300 %	@Strain 300 %	
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 %	23 %	ASTM D3995B
	@Temperature 22.8 °C, Time 79200 sec	@Temperature 73.0 °F, Time 22.0 hour	
	43 %	43 %	ASTM D3995B
	@Temperature 70.0 °C, Time 259000 sec	@Temperature 158 °F, Time 72.0 hour	

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 °C	401 °F	Gate Temperature; Extrusion
	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
Zone 1	185 °C	365 °F	Extrusion
Zone 2	200 °C	392 °F	Extrusion
Zone 3	205 °C	401 °F	Extrusion
Die Temperature	215 °C	419 °F	Extrusion
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
	85.0 °C	185 °F	Extrusion
Dry Time	4.00 hour	4.00 hour	Injection
	4.00 hour	4.00 hour	Extrusion
Back Pressure	0.500 - 1.00 MPa	72.5 - 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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