

Zythane® 7090A

Thermoplastic Polyurethane Elastomer (Polyether)

Alliance Polymers & Services

Message:

Zythane 7090A is a polyether--based TPU specifically formulated for extrusion applications with ease of processing. It exhibits excellent abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 7090A applications include among others FDA applications, cable sheathing, spiral and pneumatic tubing, film, irrigation hoses, conveyor hoses, fire hoses, hydraulic hoses, cable jacketing, flat flex cables, automotive sensor cables.

General Information	
Features	Solvent resistance
	Good wear resistance
	Fuel resistance
	Oil resistance
	Good toughness
	Hydrolysis stability
Uses	Cable sheath
	Pipe
	Pipe fittings
	Application in Automobile Field
Agency Ratings	FDA not rated
Appearance	Colorless
Forms	Particle
Processing Method	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.13	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A	90		ASTM D2240
Shaw D	40		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance	40.0	mg	ASTM D1044
Abrasion - DIN	20	mm ³	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain	8.00	MPa	ASTM D412

300% strain	15.0	MPa	ASTM D412
Tensile Strength (Break)	39.0	MPa	ASTM D412
Tensile Elongation (Break)	460	%	ASTM D412
Tear Strength ¹	132	kN/m	ASTM D624
Compression Set			ASTM D395B
24°C, 22 hr	23	%	ASTM D395B
70°C, 72 hr	41	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-37.2	°C	DSC
Vicat Softening Temperature	125	°C	ASTM D1525
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.00 mm	HB		UL 94
1.50 mm	HB		UL 94
3.00 mm	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	85.0	°C	
Drying Time	4.0	hr	
Rear Temperature	185	°C	
Middle Temperature	200	°C	
Front Temperature	205	°C	
Nozzle Temperature	205 - 215	°C	
Processing (Melt) Temp	205 - 215	°C	
Mold Temperature	25.0 - 60.0	°C	
Back Pressure	0.500 - 1.00	MPa	
Screw Speed	60 - 200	rpm	
Clamp Tonnage	4.1 - 6.9	kN/cm ²	
Injection instructions			
Injection Speed: >.4 in/sec			
Extrusion	Nominal Value	Unit	
Drying Temperature	85.0	°C	
Drying Time	4.0	hr	
Cylinder Zone 1 Temp.	185	°C	
Cylinder Zone 2 Temp.	200	°C	
Cylinder Zone 3 Temp.	205	°C	
Die Temperature	212	°C	
Extrusion instructions			
Gate Temperature: 205°C (401°F)			
NOTE			
1.	C mould		

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