

Zythane® 7090AF

Thermoplastic Polyurethane Elastomer (Polyether)

Alliance Polymers & Services

Message:

Zythane 7090AF is a FR polyether--based TPU specifically formulated with non--halogenated flame retardants 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 Appications:

Zythane 7090AF applications include among others, 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		
	Halogen-free		
	Flame retardancy		
Uses	Cable sheath		
	Pipe		
	Pipe fittings		
	Application in Automobile Field		
Appearance	Colorless		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	89		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance	33.0	mg	ASTM D1044
Abrasion - DIN	37	mm ³	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain	10.0	MPa	ASTM D412
300% strain	14.5	MPa	ASTM D412

Tensile Strength (Break)	37.0	MPa	ASTM D412
Tensile Elongation (Break)	450	%	ASTM D412
Tear Strength ¹	98.1	kN/m	ASTM D624
Compression Set			ASTM D395B
24°C, 22 hr	20	%	ASTM D395B
70°C, 72 hr	43	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-37.8	°C	DSC
Vicat Softening Temperature	112	°C	ASTM D1525
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.00 mm	V-0		UL 94
1.50 mm	V-0		UL 94
3.00 mm	V-0		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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