

Jamplast JPTPUPE

Thermoplastic Polyurethane Elastomer (Polyether)

Jamplast, Inc.

Message:

JPTPUPE thermoplastic polyurethane elastomer is a polytetramethylene glycol ether based polyurethane elastomer, featuring superior resilience, low temperature properties, excellent hydrolytic stability and resistance to attack by microorganisms compared to polyester based polyurethane elastomers. Its typical applications include wire and cable jacketing, wheels, film, tubing, and belting.

General Information			
Forms	Pellets		
Processing Method	Blow Molding		
	Extrusion		
	Injection Molding		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/8.7 kg)	24	g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow : 1.60 mm	0.50 to 0.70	%	
Across Flow : 1.60 mm	0.0 to 0.60	%	

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A	88		
Shore D	48		

Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-22 Wheel)	5.00	mg	ASTM D1044

Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
50% Strain	5.52	MPa	
100% Strain	6.89	MPa	
300% Strain	12.1	MPa	
Tensile Strength (Break)	32.1	MPa	ASTM D412
Tensile Elongation (Break)	560	%	ASTM D412
Tear Strength ¹	82.3	kN/m	ASTM D624
Compression Set (25°C, 22 hr)	25	%	ASTM D395

Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-37.8	°C	DSC
Vicat Softening Temperature	67.2	°C	ASTM D1525
CLTE - Flow	1.7E-4	cm/cm/°C	ASTM D696

Injection	Nominal Value	Unit
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Drying Temperature	82.2 to 93.3	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Processing (Melt) Temp	188 to 204	°C
Mold Temperature	15.6 to 60.0	°C
Injection Pressure	41.4 to 103	MPa
Back Pressure	0.00 to 1.38	MPa
Screw Speed	50 to 75	rpm
Clamp Tonnage	4.1 to 6.9	kN/cm ²
Screw L/D Ratio	18.0:1.0	
Screw Compression Ratio	2.0:1.0 to 3.5:1.0	

NOTE

1. Die C

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