

Pearlthane® CLEAR 15N80

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

PEARLTHANE® CLEAR 15N80 is a polyether copolymer-based TPU, supplied in form of translucent, colorless, combining low hardness with excellent mechanical properties and excellent hydrolysis resistance. It can be extruded and injection-molded.

PEARLTHANE® CLEAR 15N80 is used for making films, cables, tubing, profiles and different technical parts. To improve the microbiological protection of PEARLTHANE® CLEAR 15N80, it is necessary to add a biocide, preferably in form of TPU-based masterbatch.

General Information			
Features	Hydrolysis resistance		
	Hardness, low		
Uses	Films		
	Cable sheath		
	Pipe fittings		
	Profile		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	Translucent		
	Colorless		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.05	g/cm ³	ASTM D792
20°C	1.05	g/cm ³	ISO 2781
Moisture Content		%	Internal method
Abrasion Loss	25.0	mm ³	ISO 4649
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	82		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	5.00	MPa	ASTM D412, ISO 527
300% strain	8.00	MPa	ASTM D412, ISO 527
Tensile Strength (Yield)	35.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	740	%	ASTM D412, ISO 527
Tear Strength			

-- ¹	80.0	kN/m	ASTM D624
--	80	kN/m	ISO 34-1
Compression Set			ASTM D395B
23°C, 70 hr	24	%	ASTM D395B
70°C, 22 hr	38	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ²	-54.0	°C	ISO 11357-2
Melting Temperature ³	195 - 205	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	1.0 - 2.0	hr	
Rear Temperature	185	°C	
Middle Temperature	190	°C	
Front Temperature	195	°C	
Nozzle Temperature	200	°C	
Mold Temperature	35.0	°C	
Screw L/D Ratio	23.0:1.0		
Injection instructions			
Closing force: 30 tonsScrew diameter: 30 mmMaximum hydraulic pressure: 210 barMold: Plaque 120x120x2 mmL/D ratio: : 23			
Extrusion	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	1.0 - 2.0	hr	
Cylinder Zone 1 Temp.	180 - 195	°C	
Cylinder Zone 2 Temp.	195 - 210	°C	
Cylinder Zone 3 Temp.	210 - 225	°C	
Cylinder Zone 4 Temp.	180 - 195	°C	
Die Temperature	185 - 195	°C	
Extrusion instructions			
L/D Ratio: 25:1 to 30:1Compression Ratio: 2:1 to 3:1Screw Speed: 12 to 60 rpm			
NOTE			
1.	C mould		
2.	10°C /min		
3.	Temperature at which MFI = 10 g/10 min @ 21.6 kg		

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