

Pearlthane® 11H98

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Lubrizol Advanced Materials, Inc.

Message:

PEARLTHANE® 11H98 is a high performance polycaprolactone copolyester based TPU, supplied in form of pellets, combining a unique set of properties such as mechanical properties, chemical resistance and processability for very demanding applications such as pneumatic tubing and seals.

PEARLTHANE® 11H98 is mainly used for tubing (e.g. pneumatic tubing) and profiles when extruded. When processed by injection moulding, it can be used for ear tags, seals and a variety of technical parts.

General Information	
Features	Workability, good Good chemical resistance
Uses	Engineering accessories Pipe fittings Seals Molded Ear Label Pneumatic application Profile
Agency Ratings	EC 1907/2006 (REACH)
Forms	Particle
Processing Method	Extrusion Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm ³	ASTM D792
20°C	1.18	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			ASTM D2240, ISO 868
Shaw A	98		ASTM D2240, ISO 868
Shaw D	52		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	11.0	MPa	ASTM D412, ISO 527
300% strain	19.0	MPa	ASTM D412, ISO 527
Tensile Strength (Yield)	35.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	600	%	ASTM D412, ISO 527

Tear Strength			
-- ¹	150	kN/m	ASTM D624
--	150	kN/m	ISO 34-1
Compression Set			ASTM D395B
23°C, 70 hr	35	%	ASTM D395B
70°C, 22 hr	44	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ²	-37.0	°C	ISO 11357-2
Melting Temperature ³	203 - 213	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	1.0 - 2.0	hr	
Rear Temperature	200	°C	
Middle Temperature	210	°C	
Front Temperature	220	°C	
Nozzle Temperature	215	°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 barMould: : Plaque 120x120x2 mm			
Extrusion	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	1.0 - 2.0	hr	
Cylinder Zone 1 Temp.	200 - 210	°C	
Cylinder Zone 2 Temp.	205 - 215	°C	
Cylinder Zone 3 Temp.	215 - 225	°C	
Cylinder Zone 4 Temp.	220 - 230	°C	
Die Temperature	225 - 235	°C	
Extrusion instructions			
L/D ratio: between 25:1 and 30:1Extruder Compression ratio: 2:1 to 3:1Extruder 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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