

# Pearlthane® 11H94

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Lubrizol Advanced Materials, Inc.

## Message:

Pearlthane® 11H94 is a high performance polycaprolactone copolyester based TPU, supplied in form of translucent, colourless pellets, featuring adequate hardness as well as excellent flow and mechanical properties, including an outstandingly low compression set value. Product recommended for injection-moulding applications with an extremely short cycle time.

Pearlthane® 11H94 is especially recommended for injection moulding applications such as: seals and gaskets, automotive parts and a variety of high performance technical parts.

General Information			
Features	Low compressive deformability		
	Fast molding cycle		
	High liquidity		
	High hardness		
Uses	Washer		
	Seals		
	Application in Automobile Field		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	Translucent		
	Colorless		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm <sup>3</sup>	ASTM D792
20°C	1.18	g/cm <sup>3</sup>	ISO 2781
Moisture Content		%	Internal method
Abrasion Loss	35.0	mm <sup>3</sup>	ISO 4649
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	95		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	12.0	MPa	ASTM D412, ISO 527
300% strain	23.0	MPa	ASTM D412, ISO 527
Tensile Strength (Yield)	42.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	520	%	ASTM D412, ISO 527
Tear Strength			

-- <sup>1</sup>	135	kN/m	ASTM D624
--	140	kN/m	ISO 34-1
Compression Set			ASTM D395B
70°C, 22 hr	32	%	ASTM D395B
70°C, 70 hr	37	%	ASTM D395B
100°C, 22 hr	43	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature <sup>2</sup>	-39.0	°C	ISO 11357-2
Melting Temperature <sup>3</sup>	197 - 207	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	2.0	hr	
Rear Temperature	210	°C	
Middle Temperature	215	°C	
Front Temperature	215	°C	
Nozzle Temperature	225	°C	
Mold Temperature	40.0	°C	
Injection instructions			
Closing Force: 30 tonsScrew Diameter: 30 mmMaximum Hydraulic Pressure: 210 barMold: Plaque 120x120x2 mmL/D ratio: : 23			
NOTE			
1.	C mould		
2.	10°C /min		
3.	Temperature at which MFI = 10 g/10 min @ 21.6 kg		

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