

Pearlthane® 11T93

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Lubrizol Advanced Materials, Inc.

Message:

Pearlthane® 11T93 is a polycaprolactone copolyester based TPU, supplied in form of translucent, colourless pellets, combining hardness with excellent mechanical properties, including a low compression set value. It is specially designed for injection moulding, exhibiting a fast cycle time.

Pearlthane® 11T93 is especially recommended for injection moulding applications, such as: automotive parts, seals and gaskets, shoe soles and a variety of high performance technical parts

General Information			
Features	Low compressive deformability		
	Fast molding cycle		
	Medium hardness		
Uses	Washer		
	Engineering accessories		
	Seals		
	Application in Automobile Field		
	Footwear		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	Translucent		
	Colorless		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.16	g/cm ³	ASTM D792
20°C	1.16	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)	93		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	9.00	MPa	ASTM D412, ISO 527
300% strain	17.0	MPa	ASTM D412, ISO 527
Tensile Strength (Yield)	40.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	500	%	ASTM D412, ISO 527
Tear Strength			

-- ¹	120	kN/m	ASTM D624
--	120	kN/m	ISO 34-1
Compression Set			ASTM D395B
23°C, 70 hr	25	%	ASTM D395B
70°C, 22 hr	34	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ²	-47.0	°C	ISO 11357-2
Melting Temperature ³	197 - 207	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	1.0 - 2.0	hr	
Rear Temperature	195	°C	
Middle Temperature	200	°C	
Front Temperature	210	°C	
Nozzle Temperature	210	°C	
Mold Temperature	35.0	°C	
Injection instructions			
Closing force: : 30 tonsScrew diameter: : 30 mmMaximum hydraulic pressure: : 210 bar.Mould 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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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

