

Pearlthane® D11H95S

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Lubrizol Advanced Materials, Inc.

Message:

Pearlthane® D11H95S is a high performance polycaprolactone copolyester based TPU, supplied in form of translucent, colourless pellets, featuring excellent flow and mechanical properties and an outstanding low compression set value and high temperature resistance. Product recommended for injection-moulding applications with an extremely short cycle time.

General Information			
Features	Low compressive deformability		
	Fast molding cycle		
	High liquidity		
	Heat resistance, high		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	Translucent		
	Colorless		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.19	g/cm ³	ASTM D792
20°C	1.19	g/cm ³	ISO 2781
Moisture Content		%	Internal method
Abrasion Loss	29.0	mm ³	ISO 4649
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw A	94		ASTM D2240, ISO 868
Shaw D	45		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	13.0	MPa	ASTM D412, ISO 527
300% strain	25.0	MPa	ASTM D412, ISO 527
Tensile Strength (Yield)	47.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	480	%	ASTM D412, ISO 527
Tear Strength			
-- ¹	169	kN/m	ASTM D624
-- ²	170	kN/m	ISO 34-1
Compression Set			ASTM D395B
23°C, 70 hr	18	%	ASTM D395B

70°C, 22 hr	23	%	ASTM D395B
100°C, 70 hr	36	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ³	-38.0	°C	ISO 11357-2
Melting Temperature ⁴	215 - 225	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	90.0 - 110	°C	
Drying Time	4.0	hr	
Rear Temperature	200	°C	
Middle Temperature	205	°C	
Front Temperature	205	°C	
Nozzle Temperature	210	°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: Disc 50x50x6 mm			
NOTE			
1.	C mould		
2.	Method B		
3.	10°C /min.		
4.	Temperature at which MFI = 10 g/10 min @ 21.6 kg		

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