

Pearlthane® 11T85UV

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Lubrizol Advanced Materials, Inc.

Message:

PEARLTHANE® 11T85UV is a UV resistant polycaprolactone copolyester based TPU, supplied in form of translucent, colourless pellets, featuring adequate hardness with excellent flow and mechanical properties. It can be injection-molded and coextruded.

PEARLTHANE® 11T85UV when processed by injection moulding, can be used for making automotive parts and a variety of technical components.

PEARLTHANE® 11T85UV when processed by coextrusion, can be used for making technical sheets thanks to its excellent adhesion into polar substrates such as ABS, PC and PVC.

General Information	
Features	Good UV resistance Good adhesion High liquidity Medium hardness
Uses	Engineering accessories Pipe Mining application Application in Automobile Field
Agency Ratings	EC 1907/2006 (REACH)
Appearance	Translucent Colorless
Forms	Particle
Processing Method	Co-extrusion molding 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)	86		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 527
100% strain	6.00	MPa	ASTM D412, ISO 527
300% strain	10.0	MPa	ASTM D412, ISO 527

Tensile Strength (Yield)	40.0	MPa	ASTM D412, ISO 527
Tensile Elongation (Break)	630	%	ASTM D412, ISO 527
Tear Strength			
-- ¹	90.0	kN/m	ASTM D624
--	90	kN/m	ISO 34-1
Compression Set			
23°C, 70 hr	20	%	ASTM D395B
70°C, 22 hr	35	%	ASTM D395B

Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ²	-40.0	°C	ISO 11357-2
Melting Temperature ³	178 - 188	°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 barMould: : 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.	175 - 195	°C
Cylinder Zone 2 Temp.	185 - 205	°C
Cylinder Zone 3 Temp.	195 - 215	°C
Cylinder Zone 4 Temp.	200 - 220	°C
Die Temperature	190 - 210	°C

Extrusion instructions

Extruder Speed: 20 to 50rpmExtrusion Compression Ratio: 2:1 to 3:1Extrusion L/D Ratio: 25:1 to 30:1

NOTE

1. C mould
2. 10°C /min
3. Temperature at which MFI = 10 g/10 min @ 21.6 kg

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