

Lubrizol



**TPU FOR SPECIALTY
MOULDED PARTS**
EMEA
**PRODUCT
SELECTION
GUIDE**

LUBRIZOL
ENGINEERED
POLYMERS

**ADVANCING MATERIALS.
ELEVATING PERFORMANCE.**

TPU (THERMOPLASTIC POLYURETHANE) FOR SPECIALTY MOULDED PARTS

Grades	TPU Polyol Type	Hardness (Shore A/D) ISO 868	Key benefits	Tensile Strength (MPa)	Elongation at break (%)	Tear Resistance kN/m ISO 34-1B	MFI g/10 min. ISO 1133	MFI Conditions	Main Applications
Pearlthane™ ECO D12T80E	Bio TPU™ by Lubrizol	82A	Bio-based** / Exc. mechanical properties & adhesion to other substrates	33 (A)	604 (A)	84****	40-90	220°C/3.8 Kg	Protective overmoulded layers, sports & recreation and electronic parts
Pearlthane™ ECO D12T90E	Bio TPU™ by Lubrizol	91A	Bio-based** / Exc. mechanical properties & adhesion to other substrates	39 (A)	470 (A)	122****	30-70	220°C/3.8 Kg	Sports & recreation, electronic, and food-approved parts
Pearlthane™ ECO 12T95	Bio TPU™ by Lubrizol	95A	Bio-based** / Exc. mech. proper. / Abrasion & hydrolysis resistance	36 (A)	415 (A)	142****	40-80	220°C/8.8 kg	Electronics and sports & recreation
Pearlthane™ ECO D12T55D	Bio TPU™ by Lubrizol	55D	Bio-Based** / Hardness / Transparency / Flexibility balance	43 (A)	360 (A)	189****	40-75	230°C/2.16 Kg	Sports & recreation parts
Estane® D91T80 NAT 01	Aliphatic PCL*	82A	Soft, and UV / Staining / Weathering resistance	35 (A)	700 (A)	82****	15-35	190°C/2.16 kg	Electronics
Pearlthane™ 91T85	Aliphatic PCL*	88A	Low blooming, and UV / Staining / Weathering resistance	27 (A)	650 (A)	91****	15-35	190°C/2.16 kg	Automotive interior parts and electronics
Estane® D91T86 NAT 01	Aliphatic PCL*	90A	UV / Staining / Weathering resistance	30 (A)	800 (A)	110****	15-35	190°C/2.16 kg	Automotive interior parts and electronics
Estane® 58125 NAT 055	Polyether	77A	Soft, Good adhesion to various substrates	22 (A)	775 (A)	30***	17-32	200°C/3.8 kg	Soft touch overmoulding
Estane® GP 92AT NAT 022	Polyether	93A	Low-temperature flexibility, Hydrolytic stable	16 (A)	545 (A)	81***	20-40	90°C/1.6 kg	Automotive and technical components
Estane® 58212 NAT 025	Polyether	93A/42D	Low-temperature flexibility, Hydrolytic stable	50 (A)	500 (A)	95***	8-13	190°C/8.7 kg	Connectors
Estane® GP 52DT NAT 055	Polyether	53D	Low-temperature flexibility, Hydrolytic stable	43 (A)	545 (A)	105****	20-40	205°C/8.7 kg	Animal ID tags
Estane® 58144 NAT 055	Polyether	63D	High hardness / Low-temperature flexibility / Hydrolytic stable	44 (A)	490 (A)	160****	20-40	224°C/2.16 kg	Connectors
Estaloc® 59380 NAT 055	Polyether	74D	30% Glass Fiber Reinforced	77 (B)	15 (B)	-	-	-	Offshore high modulus components, and complex impact resistant parts
Estaloc® 90AT3 NAT 051	Polyether	76D	50% Glass Fiber Reinforced and outstanding hydrolysis resistance	84 (A)	7 (B)	-	-	-	High modulus components
Pearlthane™ CLEAR 15N80	Polyether Copolymer	82A	Transparency and flexibility	35 (A)	740 (A)	80****	24-45	210°C/3.8Kg	Elastic components and animal ID tags
Pearlthane™ CLEAR 15N85	Polyether Copolymer	86A	Transparency, Hydrolysis resist. and Low-temp. flexibility	35 (A)	660 (A)	95****	20-45	210°C/3.8 kg	Moulded aesthetic components in footwear and other shoe components
Pearlthane™ 15N95UV	Polyether Copolymer	95A/45D	Fast cycling, Hydrolysis resist. and Low-temp. flexibility	35 (A)	545 (A)	145****	10-30	210°C/3.8 kg	Outdoor applications and animal ID tags
Pearlthane™ 11T80	Polycaprolactone Copolyester	82A	Soft, Excellent mechanical properties	40 (A)	630 (A)	80****	55-90	220°C/3.8 kg	Automotive components
Pearlthane™ 11T85	Polycaprolactone Copolyester	86A	Excellent flow / Fast cycling / Excellent mechanical properties	40 (A)	640 (A)	90****	55-90	220°C/3.8 kg	Automotive and technical parts
Pearlthane™ 11T85UV	Polycaprolactone Copolyester	86A	Excellent flow and mechanical properties	40 (A)	630 (A)	90****	55-90	220°C/3.8 kg	Automotive interior and technical parts
Pearlthane™ 11T93	Polycaprolactone Copolyester	93A	Very fast cycling	40 (A)	500 (A)	120****	30-70	220°C/3.8 kg	Automotive and technical parts, and animal ID tags
Pearlthane™ 11T95P	Polycaprolactone Copolyester	95A/49D	Transparency / Fast cycling / Outstanding abrasion resistance	40 (A)	515 (A)	155****	15-40	224°C/1.2 kg	Sport shoe components, technical parts and animal ID tags
Pearlthane™ D11H92S*****	Polycaprolactone Copolyester	92A	Fast cycling / Low compression set value / Improved heat resistance	45 (A)	505 (A)	128****	-	-	Hydraulic and pneumatic seals
Pearlthane™ 11H94	Polycaprolactone Copolyester	95A	Excellent flow / Fast cycling / Low compression set value	42 (A)	515 (A)	135****	15-40	220°C/3.8 kg	Seals and gaskets, and automotive parts
Pearlthane™ D11H95S*****	Polycaprolactone Copolyester	94A	Fast cycling / Low compression set value / Improved heat resistance	50 (A)	450 (A)	157****	-	-	Hydraulic and pneumatic seals
Pearlthane™ 11T60D	Polycaprolactone Copolyester	58D	Very high hardness, Excellent mechanical properties	40 (A)	480 (A)	170****	45-70	230°C/2.16 kg	Footwear cleats, pieces and rollers
Pearlthane™ 11T75D	Polycaprolactone Copolyester	80D	Extremely hard	50 (B)	230 (B)	-	30-55	230°C/2.16 kg	Technical parts
Estane® GP 92AB NAT 01	Polyester	92A	Improved hydrolytic stability, Fast cycling	45 (A)	580 (A)	95***	10-30	205°C/8.7 kg	Automotive and technical components
Estaloc® 59300 NAT 051	Polyester	72D	30% Glass Fiber Reinforced	78 (B)	15 (B)	-	-	-	Casing power tools and metal replacement parts
Estaloc® 59600 NAT 051	Polyester	75D	50% Glass Fiber Reinforced	93 (B)	7 (B)	-	-	-	High modulus components, technical parts, and safety components
Estane® TS92AP7 NAT 055	Polycarbonate	93A	Long term heat stability	50 (B)	230 (B)	103***	15-30	200°C/8.7Kg	Technical parts and compounds

* PCL = Polycaprolactone Copolyester / ** Bio-based content as certified in accordance with ASTM D-6866 / *** Nicked / **** Unnicked / ***** Sample postcured 16h/120°C
(A) ISO 527-2/5A/500 (B) ISO 527-2/1A/5

LUBRIZOL GLOBAL PRESENCE

Our global presence means we have the application and development laboratories (with technical service ability) already in place, as well as worldwide production capabilities and renowned customer service. We are also a specialty producer of performance coatings and other unique products for apparel. Teaming with Lubrizol simplifies a complex global supply chain.

Americas

Lubrizol Advanced Materials, Inc.
9911 Brecksville Road
Cleveland, Ohio 44141-3201
USAPhone: +1 888 234 2436

Asia

Lubrizol Specialty Chemicals (Shanghai) Co., Ltd.
10F, Park Center International
1088 Fang Dian Road
Shanghai PRC 201204
Phone: +86 21 3866 0366

Europe, Middle East, India & Africa

Lubrizol Advanced Materials Spain S.L.
Gran Vial, no. 17
08160 Montmeló (Barcelona), Spain
Phone: +34 93 579 9522



To learn more, contact us at engineeredpolymers@lubrizol.com
or visit www.lubrizol.com/Engineered-Polymers

The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation, nor as an inducement to practice any patented invention without permission of the patent owner.

© 2018 The Lubrizol Corporation. All rights reserved.
All marks are the property of The Lubrizol Corporation.
EU-SM-012018



contact us at
<http://go.lubrizol.com/EP>