

EMEA Product Selection Guide



**TPU FOR
SPECIALTY
MOULDED PARTS**

Lubrizol

Engineered Polymers

TPU (THERMOPLASTIC POLYURETHANE) FOR SPECIALTY MOULDED PARTS

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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
ESTANE® ECO 12T80E	Bio TPU™ by Lubrizol	82A	Bio-based**, Excellent 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
ESTANE® ECO 12T85	Bio TPU™ by Lubrizol	85A	Excellent mechanical properties and abrasion resistance	34 (A)	450 (A)	100****	55-65	220°C/3.8 Kg	Electronics and sports & recreation parts
ESTANE® ECO 12T90E	Bio TPU™ by Lubrizol	91A	Bio-based**, Excellent 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
ESTANE® ECO 12T95	Bio TPU™ by Lubrizol	95A	Bio-based** / Excellent mechanical properties / Abrasion & hydrolysis resistance	36 (A)	415 (A)	142****	40-80	220°C/8.8 Kg	Electronics and sports & recreation
ESTANE® ECO 12T55D	Bio TPU™ by Lubrizol	55D	Bio-Based** / Hardness / Transparency / Flexibility balance	43 (A)	360 (A)	189****	20-70	230°C/2.16 Kg	Sports & recreation parts
ESTANE® D91T80 NAT 01	PCL* (aliphatic)	82A	Soft, and UV / Staining / Weathering resistance	35 (A)	700 (A)	82****	15-35	190°C/2.16 Kg	Electronics
ESTANE® D91T86 NAT 01	PCL* (aliphatic)	90A	UV / Staining / Weathering resistance	30 (A)	800 (A)	110****	15-35	190°C/2.16 Kg	Automotive interior parts and electronics
ESTANE® 58280 NAT 065	Polyether	78A	High hydrolysis resistance / Good compression set / Good hysteresis	29 (A)	720 (A)	50***	20-38	210°C/3.8 Kg	Seals
ESTANE® 58300 NAT 036	Polyether	82A	FDA approved & UV stabilized	32 (A)	670 (A)	40***	30-50	190°C/8.7 Kg	Outdoor applications
ESTANE® 58315 NAT 055	Polyether	85A	UV stabilized	46 (A)	570 (A)	55***	10-24	190°C/8.7 Kg	Outdoor applications
ESTANE® 58887 NAT 055	Polyether	89A	FDA approved & UV stabilized	47 (A)	570 (A)	65***	25-35	210°C/3.8 Kg	Outdoor applications and sports goods
ESTANE® ETE 55DT3 NAT 065	Polyether	55D	High hydrolysis resistance and slow crystallization	42 (A)	470 (A)	110***	2-8	210°C/3.8 Kg	Large moulded parts and offshore components
ESTANE® GP 92AT NAT 055	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	52D	Low-temperature flexibility, Hydrolytic stable, UL yellow card	43 (A)	545 (A)	105***	20-40	205°C/8.7 Kg	Animal ID tags and connectors
ESTANE® 58144 NAT 055	Polyether	63D	High hardness / Low-temperature flexibility / Hydrolytic stable / UL yellow card	44 (A)	490 (A)	160***	20-40	224°C/21.6 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
PEARLTHANE™ CLEAR 15N70	Polyether Copolymer	72A	Low hardness / High elasticity / Exc. mechanical properties / Exc. hydrolysis resistance	30 (A)	710 (A)	65****	24-45	210°C/3.8 Kg	Overmoulded parts
PEARLTHANE™ CLEAR 15N80	Polyether Copolymer	82A	Transparency and flexibility	35 (A)	740 (A)	80****	24-45	210°C/3.8 Kg	Elastic components and animal ID tags
PEARLTHANE™ CLEAR 15N85	Polyether Copolymer	86A	Transparency, Hydrolysis resistance and Low-temperature 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 resistance and Low-temperature flexibility	35 (A)	545 (A)	145****	10-30	210°C/3.8 Kg	Outdoor applications and animal ID tags
PEARLTHANE™ 11T80	PCL*	82A	Soft, Excellent mechanical properties	40 (A)	630 (A)	80****	55-90	220°C/3.8 Kg	Automotive components
PEARLTHANE™ 11T85	PCL*	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™ 11T93	PCL*	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	PCL*	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™ 11T60D	PCL*	58D	High hardness, Excellent mechanical properties	40 (A)	480 (A)	170****	45-70	230°C/2.16 Kg	Footwear cleats, pieces and rollers
ESTANE 58271 NAT 021	Polyester	86A	Wax free, low blooming easy colourability	42 (A)	650(A)	60***	15-25	190°C/8.7 Kg	Overmoulding onto ABS,PC, PA for grips
ESTANE® ETE 90AB3 NAT 01	Polyester	91A	Hardness / Excellent mechanical properties / Slow crystallization	40 (A)	500 (A)	110***	70-95	220°C/3.8 Kg	Large moulded parts
ESTANE® GP 92AB3 NAT 01	Polyester	92A	High speed moulding	45 (A)	580 (A)	95***	10-30	205°C/8.7 Kg	Animal ID tags
ESTANE® GP 60DB NAT 021	Polyester	60D	High speed moulding	47 (A)	540 (A)	143***	30-100	230°C/2.16 Kg	Automotive components and animal ID tags
ESTALOC® 59300 NAT 051	Polyester	72D	30% Glass Fiber Reinforced, UL yellow card	78 (B)	15 (B)	-	-	-	Casing power tools and metal replacement parts
ESTALOC® 59600 NAT 051	Polyester	75D	50% Glass Fiber Reinforced, UL yellow card	93 (B)	7 (B)	-	-	-	High modulus components, technical parts, and safety components
ESTANE® TS92AP7 NAT 055	Polycarbonate	93A	Long term heat stability, excellent chemical resistance	50 (B)	230 (B)	103***	15-30	200°C/8.7 Kg	Technical parts and compounds

* PCL = Polycaprolactone Copolyester / ** Bio-based content as certified in accordance with ASTM D-6866 / *** Nicked / **** Unnicked
(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.

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