

NA Product Selection Guide

TPU FOR FILM AND SHEET

Lubrizol

Engineered Polymers

TPU (THERMOPLASTIC POLYURETHANE)

FOR FILM AND SHEET

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Grades	TPU Polyol Type	Hardness (Shore A/D) ISO 868	Key benefits	Tensile Strength (psi)	Elongation at Break (%)	Taber Abrasion (mg)	Tear strength (lb/in)	Tm (°C) by DSC	Tg (°C) by DSC	Main Applications
ESTANE® 2103-70A NAT	Polyether	72A	Breathable, high elongation, low temperature flexibility	3580 (A)	730 (A)	3 (G)	300 (I)	127	-69	Apparel, tie layers
ESTANE® MVT 75AT3 NAT 055	Polyether	75A	Breathable, high elongation, low temperature flexibility	5000 (A)	700 (A)	20 (E)	360 (I)	136	-68	Apparel
ESTANE® 58245 NAT 031	Polyether	80A	Breathable	4500 (A)	700 (A)	60 (E)	350 (I)	135	-37	Apparel
PEARLTHANE™ 16N80	Polyether	80A	Low temperature flexibility	5706 (C)	760 (C)	20 (H, mm ³)	460 (J)	129	-53	Fabric coating
ESTANE® 58300 NAT 055	Polyether	82A	Low temperature flexibility, clarity, hydrolysis & UV resistance	5500 (A)	650 (A)	22 (E)	400 (I)	130	-50	Film & sheet, life rafts
ESTANE® 58315 NAT 055	Polyether	85A	Low temperature flexibility, clarity, hydrolysis & UV resistance, WRAS certified*	7000 (A)	570 (A)	37 (E)	490 (I)	135	-50	Film & sheet, inflatables
ESTANE® 58887 NAT 055	Polyether	87A	Low temperature flexibility, clarity, hydrolysis & UV resistance	7500 (A)	500 (A)	40 (E)	500 (I)	140	-45	Film & sheet, inflatables, food and elevator belts
ESTANE® 58215 NAT 030	Polyether	90A	High melt strength	9500 (A)	450 (A)	43 (E)	600 (I)	175	-40	Blown film
ESTANE® 58810 NAT 025	Polyether	90A	High melt flow, improved temperature resistance	5550 (A)	525 (A)	41 (E)	340 (I)	170	-44	Film & sheet
ESTANE® 2103-90AEFH NAT	Polyether	92A	Film resin for thermoforming	5150 (A)	521 (A)	50 (G)	540 (I)	155	-27	Lumbar support
ESTANE® 58219 NAT 055	Polyether	92A	Low temperature flexibility, clarity, hydrolysis & UV resistance	9000 (A)	470 (A)	40 (E)	600 (I)	140	-45	Film & sheet, inflatables, food and elevator belts
ESTANE® ETE 55DT3 NAT 065	Polyether	55D	Hard TPU, extrusion & injection molding, UV, clarity, low temperature flexibility	8400 (A)	420 (A)	109 (E)	810 (I)	181	-36	Hard film & sheet and thermoforming
ESTANE® ETE 60DT3 NAT 065	Polyether	60D	Hard TPU, extrusion & injection molding, UV, clarity, low temperature flexibility	7800 (A)	460 (A)	60 (E)	900 (I)	161	-17	Hard film & sheet and thermoforming
ESTANE® ETE 70DT3 NAT 065	Polyether	70D	Hard TPU, extrusion & injection molding, UV, clarity, low temperature flexibility	7500 (A)	360 (A)	64 (E)	1200 (I)	200	-22	Hard film & sheet and thermoforming
ESTANE® 58213 NAT 027	Polyester	75A	Low color, excellent adhesion, PVC compounding	5500 (A)	680 (A)	6.4 (E)	300 (I)	110	-30	PVC laminates, adhesive films
ESTANE® 54610 NAT 021	Polyester	85A	High melt strength	5400 (A)	620 (A)	34 (E)	400 (I)	120	-25	Calendering
ESTANE® 58206 NAT 060	Polyester	85A	High-heat resistance elasticity, hydrolytic stability	7000 (A)	550 (A)	20 (E)	500 (I)	160	-32	Films, belts, and profiles
ESTANE® 58271 NAT 021	Polyester	85A	Wax-free	7500 (A)	540 (A)	34 (E)	450 (I)	120	-25	Films and food belts, tie layers
PEARLTHANE™ 12K85A	Polyester	85A	Optical clarity, chemical resistance	4400 (A)	540 (C)	25 (H, mm ³)	430 (I)	121	-33	Blown film
PEARLTHANE™ 12T92E	Polyester	91A	High melt strength	5655 (C)	500 (C)	30 (H, mm ³)	639 (J)	143	-37	Belts
PEARLTHANE™ 12H92E	Polyester	92A	Hydrolytic stability	5800 (C)	505 (C)	25 (H, mm ³)	742 (J)	148	-41	Belts
PEARLTHANE™ 12K92A	Polyester	92A	Optical clarity, chemical resistance	5000 (A)	500 (C)	25 (H, mm ³)	685 (I)	126	-16	Blown film
ESTANE® 58277 NAT 065	Polyester	93A	UV resistance, wide processing window, chemical resistance	9000 (A)	450 (A)	50 (E)	650 (I)	145	-23	Film and profiles, CIPP liners, tie layers
ESTANE® 2355-95AEF NAT	Polyester	94A	UV resistance, wide processing window, chemical resistance	5650 (A)	450 (A)	4 (G)	600 (I)	153	-15	Film and profiles, CIPP liners, tie layers
ESTANE® 58246 NAT 040	Polyester	50D	UV resistance, chemical resistance	9300 (A)	420 (A)	51 (E)	800 (I)	170	-20	Belts
ESTANE® ETE 55DS3 NAT 065	Polyester	55D	Hard TPU, extrusion & injection molding, chemical resistance	10300 (A)	440 (A)	58 (E)	880 (I)	180	-39	CIPP liners & tapes
PEARLTHANE™ 11T80	Polycaprolactone	82A	Clarity	5801 (C)	630 (C)	20 (H, mm ³)	457 (J)	130	-31	Films, belts and profiles
PEARLTHANE™ CLEAR 15N70	Polyether copolymer	72A	Clarity, elasticity, low temperature flexibility	4350 (C)	710 (C)	25 (H, mm ³)	371 (J)	125	-53	Films, belts and profiles
PEARLTHANE™ CLEAR 15N80	Polyether copolymer	82A	Clarity, elasticity	5075 (C)	740 (C)	25 (H, mm ³)	457 (J)	158	-50	Films, belts and profiles
PEARLTHANE™ CLEAR 15N85	Polyether copolymer	86A	Clarity, high puncture resistance	5075 (C)	600 (C)	20 (H, mm ³)	542 (J)	146	-40	Films, belts and profiles

Tensile Test Standards (A) ASTM D-412 (B) ASTM D-638 (C) ISO 527-2/5A/500 (D) ISO 527-2/1A/5
Abrasion Test Standards (E) ASTM D-3389 (H-18, 1000g, 1000 rev) (F) ASTM D-3389 (CS-17, 1000g, 1000 rev) (G) ASTM D-3389 (H-22, 1000g, 1000 rev) (H) ISO 4649-A
Tear Strength Test Standards (I) ASTM D-624 (die C) (J) ISO 34-1B

* WRAS (Water Regulations Advisory Scheme) certified materials with contact to drinking water based on the standard BS6920

For information on FDA food contact compliance, please contact Lubrizol Customer Assistance.

On request, all products may be available in powder form.

Bio TPU by Lubrizol products complement the offering for film & sheet, please contact your local representative for more information. Bio-based content as certified in accordance with ASTM D6866.



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
USA Phone: +1 216 447 5000

ASIA

Lubrizol Specialty Chemicals
Manufacturing (Shanghai) Co., Ltd.
6F, No.3, Building C,
Lane 227 Dongyu Road
Pudong New District, Shanghai,
PRC 200126
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



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contact us at
go.lubrizol.com/EP