

Lubrizol

**TPU FOR
FILM AND SHEET
EMEAI
PRODUCT
SELECTION
GUIDE**



**LUBRIZOL
ENGINEERED
POLYMERS**

**ADVANCING MATERIALS.
ELEVATING PERFORMANCE.**

TPU (THERMOPLASTIC POLYURETHANE) FOR FILM AND SHEET

Grades	TPU Polyol Type	Hardness (Shore A/D) ISO 868	Key benefits	Tensile Strength (MPa) ISO 527-2/5A/500	Elongation at break ISO 527-2/5A/500	Tear Resistance kN/m ISO 34-1B	Minimum Extrusion Temperature °C	MFI g/10 min. ISO 1133	MFI Conditions	Main Applications
Estane® 58245 NAT 031	Polyether	82A	Breathable	27	770	35*	180-190	15-30	190°C/8.7 kg	Apparel
Estane® 58300 NAT 036	Polyether	82A	Low temperature flexibility	32	670	40*	175-185	30-50	190°C/8.7 kg	Life rafts
Estane® 58315 NAT 055	Polyether	85A	Special UV resistance, WRAS certified***	46	570	55*	180-190	10-24	190°C/8.7 kg	Inflatables
Estane® 58311 NAT 028	Polyether	86A	General purpose, WRAS certified***	40	638	55*	180-190	15-25	210°C/3.8 kg	Inflatables
Estane® 58237 NAT 024	Polyether	88A	Breathable	42	590	45*	180-190	15-30	190°C/8.7 kg	Apparel
Estane® 58887 NAT 055	Polyether	89A	Special UV resistance	47	570	65*	180-190	27-35	210°C/3.8 kg	Inflatables, food and elevator belts
Pearlcoat™ Activa 118K	Polyester	70A	Soft/Low gloss	30	615	45**	175-180	0-15	190°C/5 kg	Film coextrusion
Estane® 58213 NAT 022	Polyester	76A	Wax-free	25	700	45*	165-175	20-60	190°C/8.7 kg	Adhesive film
Estane® 58271 NAT 021	Polyester	86A	Wax-free	42	650	60*	175-185	15-25	190°C/8.7 kg	Films and food belts
Pearlthane™ MAXI 12T85E	Polyester	86A	High-melt strength	42	580	108**	190-200	10-25	210°C/3.8 kg	Film coextrusion
Estane® 58206 NAT 031	Polyester	87A	High-heat resistance, elasticity	46	600	70*	185-195	8-22	210°C/3.8 kg	Films, belting and profiles
Estane® 58447 NAT 021	Polyester	90A/44D	High-heat resistance, elasticity	46	540	85*	200-210	10-25	210°C/3.8 kg	Epoxy-resistant CIPP liners
Estane® 58226 NAT 028	Polyester	92A	Good extrusion proc., improved hydrolysis & chemical resist.	62	500	100**	185-195	8 - 15	190°C/8.7 kg	Films and belts
Estane® 58277 NAT 021	Polyester	93A	Wax-free	47	550	100*	185-190	10-20	190°C/8.7 kg	Films and profiles
Pearlcoat™ DIPP 119	Polycaprolactone Copolyester	70A	Soft / Flexible / PVC compounding	20	750	50**	125-170	25-50	190°C/2.16 kg	PVC laminates, adhesives film
Pearlthane™ 11T80	Polycaprolactone Copolyester	82A	Clarity	40	630	80**	180-215	55-90	220°C/3.8 kg	Footwear film
Pearlthane™ 11T85E	Polycaprolactone Copolyester	86A	Clarity	35	650	90**	175-220	55-90	220°C/3.8 kg	Films, escalator handrails, belting
Pearlthane™ 11T92E	Polycaprolactone Copolyester	93A	Clarity	42	560	130**	190-220	55-90	220°C/3.8 kg	Films, escalator handrails, belting
Pearlthane™ CLEAR 15N70	Polyether Copolymer	72A	Clarity, elasticity	30	710	65**	170-215	25-45	210°C/3.8 kg	Automotive
Pearlthane™ CLEAR 15N80	Polyether Copolymer	82A	Clarity, elasticity	35	740	80**	180-225	25-45	210°C/3.8 kg	Films, airport belt profiles
Pearlthane™ CLEAR 15N85	Polyether Copolymer	86A	Clarity, high puncture resistance	35	660	95**	185-230	20-45	210°C/3.8 kg	Films, belts and profiles
Estane® AG-8451	Aliphatic Polyether	75A	Glass to plastic lamination	48	475	58**	180-190	1-12	177°C/2.16 kg	Glass lamination
Estane® ALR E87A-V	Aliphatic Polyether	87A	Non-yellowing	53	390	-	175-185	1-6	175°C/2.16 kg	Paint protection film
Estane® AG-9550	Aliphatic Polyether	95A	Glass to plastic lamination	60	375	80**	190-205	1-50	195°C/2.16	Glass lamination
Pearlcoat™ Activa D198K	Aliphatic Polycaprolactone Copolyester	70A	Low-gloss, non-yellowing	25	455	-	185-195	0-15	190°C/5 kg	Film coextrusion
Estane® 91F88	Aliphatic Polycaprolactone Copolyester	90A	Excellent transparency	45	500	-	165-200	5-20	170°C/10 kg	Film coextrusion
Estane® ALR CLC93AV	Aliphatic Polycaprolactone	87A	UV-stabilized, non-yellowing	65	410	-	175-185	1-10	175°C/2.16 kg	Paint protection film

All products may be available, upon request, in powder form as per below:

Maximum Particle Size of powder in µm (95-100%)	<106	<250	<355	<500	<800
Grade	S	X	F	L	A

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 D-6866.

* Nicked / ** Unnicked / *** WRAS (Water Regulations Advisory Scheme) certified materials with contact to drinking water based on the standard BS6920. For information on EU and/or FDA food contact compliance, please contact Lubrizol Customer Assistance

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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