

Technical Data Sheet

Type: Estagrip ST80A TPU is an 80A polyether-type thermoplastic polyurethane

Description: Low durometer soft feel for excellent grip; outstanding adhesion

Uses: Injection molding; over molding

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	80 +/- 3	Shore A	ASTM D-2240
Specific Gravity	1.06		ASTM D-792
Tensile Strength	3300 (22.8)	psi (MPa)	ASTM D-412
Ultimate Elongation	750	%	"
Tensile Stress at			
- 100 % Elongation	530 (3.7)	psi (MPa)	ASTM D-412
- 300 % Elongation	970 (6.7)	psi (MPa)	"
Tear Strength			
Graves	390 (7.0)	lb/in (kg/mm)	ASTM D-624 (die C)
Taber Loss (1000 rev)	0.002 (45.0)	oz (mg)	ASTM D-3389 (H18, 1000g)
T _g (by DSC)	-60 (-51)	°F (°C)	Lubrizol Advanced Materials

- Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on extruded sheet (30 mils).
- Listed values are "typical (average) values" and should / cannot be applied for specification purposes.

Supply Form and Standard Packaging

- Estagrip ST80A TPU is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

Material Preparation

- Prior to processing, Estagrip ST80A TPU must be dried at **220°F (104°C)** for 2-4 hours.
- It is recommended to dry the material in a desiccant type dryer. Target dew point should be **-40°C**.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

Processing Conditions

Estagrip ST80A TPU can be processed on any conventional injection molding machine.

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Recommended Starting Injection Molding Temperature

	°F/°C
Rear	380°F (193° C)
Middle	400°F (204°C)
Front	420°F (216°C)
Nozzle	420°F (216°C)
Melt Temperature*	425°F (219°C)
Material Drying**	Moisture below 0.02%
Mold Temperature	40-90°F (5-25°C)

Fill Rate: Slow to Moderate

Screw RPM: 30-80

Back Pressure: 30-50 psi

Injection Pressure: 290- 1450 psi

Holding Pressure: 145-725 psi

* Melt temperature by pyrometer check of air shot

** This can be achieved by drying in a desiccant dryer capable of a dew point of -40°F and dryer temperature of 200°F for 2 hours. It can also be dried overnight at 180°F in a desiccant dryer. A tray dryer can be used with temperature set at 200°F for 4 hours.

For further information refer to Lubrizol Advanced Materials processing guides.

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