

## Technical Data Sheet

**Type:** Estane® 58134 is a 45D Polyester Thermoplastic Polyurethane (TPU).

**Features:** Fast cycling, broad temperature performance and durability.

**Uses:** Injection Molding.

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	45 +/- 3	Shore D	ASTM D-2240
Specific Gravity	1.22		ASTM D-792
Tensile Strength	5800 (40)	psi (MPa)	ASTM D-412
Ultimate Elongation	500	%	"
<b>Tensile Stress at:</b>			
- 100% Elongation	1300 (9)	psi (MPa)	ASTM D-412
- 300% Elongation	2900 (20)	psi (MPa)	"
<b>Tear Strength:</b>			
- Graves	730 (13)	lb/in (kg/mm)	ASTM D-624 (die C)
- Trouser	210 (3.7)	lb/in (kg/mm)	ASTM D-470
Taber Loss (1000 rev)	0.0022 (62)	oz (mg)	ASTM D-3389 (CS-17, 1000g)
T <sub>m</sub> (by DSC)	421 (216)	°F (°C)	Lubrizol Advanced Materials
T <sub>g</sub> (by DSC)	-51 (-46)	°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

- Estane® 58134 TPU is available in pellet form and packaged in 50 lb bags or 1000 lb boxes.

## Material Preparation

- Prior to processing, Estane® 58134 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%.

## Material Preparation

- Estane® 58134 TPU can be processed on any conventional injection molding machine.

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### Recommended Starting Injection Molding Temperature Profile:

	°F/°C
<b>Rear</b>	<b>400 / 204</b>
<b>Middle</b>	<b>410 / 210</b>
<b>Front</b>	<b>425 / 218</b>
<b>Nozzle</b>	<b>430 / 221</b>
<b>Melt Temperature*</b>	<b>430 / 221</b>

**Fill Rate:** Moderate

**Screw RPM:** 60-100

**Back Pressure:** 50 psi minimum

**Injection Pressure:** 10,000-15,000 psi (69-103 MPa)

**Holding Pressure:** 5,000-10,000 psi (35-69 MPa)

**Mold Shrinkage\*:** 0.013 (disk) in/in (cm/cm)  
0.009 (flex bar) in/in (cm/cm)

\* Mold shrinkage was determined using ASTM D955. Actual shrinkage will vary with part size, design, and processing conditions. Please contact a Lubrizol Advanced Materials technical representative for more information.

### Other Properties

Properties	Value (Metric)	Unit	Test Method
<b>Mechanical Data</b>			
Flexural Modulus (23 <sup>0</sup> C)	8,600 (59)	psi (MPa)	ASTM D-790
Compression Set 23 <sup>0</sup> C/22 h	35	%	ASTM D-395
Compression Set 70 <sup>0</sup> C/22 h	39	%	ASTM D-395

For further information refer to Lubrizol Advanced Materials processing guides.

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