

Technical Data Sheet

Type: Estane® 58810 is a 90A Polyether-Based Thermoplastic Polyurethane (TPU).

Features: High melt flow and improved temperature resistance.

Uses: Extrusion – Wire and cable, Hose and tube.

| Physical Properties | Value (Metric) | Unit | Test Method |
|---------------------------|----------------|---------------|-----------------------------|
| Hardness (5 sec) | 90 +/- 3 | Shore A | ASTM D-2240 |
| Specific Gravity | 1.13 | | ASTM D-792 |
| Tensile Strength | 5550 (38.3) | psi (MPa) | ASTM D-412 |
| Ultimate Elongation | 525 | % | " |
| Tensile Stress at: | | | |
| - 100% Elongation | 1300 (9.0) | psi (MPa) | ASTM D-412 |
| - 300% Elongation | 2500 (17.2) | psi (MPa) | " |
| Tear Strength: | | | |
| - Graves | 340 (6.1) | lb/in (kg/mm) | ASTM D-624 (die C) |
| - Trouser | 102 (1.8) | lb/in (kg/mm) | ASTM D-470 |
| Taber Loss (1000 rev) | 0.0014 (41) | oz (mg) | ASTM D-3389 (H18, 1000g) |
| T _g (by DSC) | -47 (-44) | °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® 58810 TPU is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

Material Preparation

- Prior to processing, Estane® 58810 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

- Estane® 58810 TPU can be processed on any conventional extruder.

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<http://go.lubrizol.com/EP>

Recommended Starting Extrusion Temperature Profile:

| | °F/°C |
|-----------------------|----------------|
| Zone 1 | 350/176 |
| Zone 2 | 360/182 |
| Zone 3 | 375/191 |
| Zone 4 | 385/196 |
| Adapter (5) | 390/199 |
| Die Zone 1 (6) | 385/196 |
| Die Zone 2 | 380/194 |

Melt Temp. Mid-Range 385°F/196°C
Screen Pack Recommendations: 20/40/80/20

Estane® 58810 TPU, a 90A Polyether-Type, has been developed for superior performance characteristics for wire & cable applications. Among the critical performance parameters are:

Toughness - important for retaining efficient transfer of load over time.

Superior Chemical & Oil Resistance - provides best transfer of load and eliminates rubbing and frictional temperature buildup.

High Performance Film & Sheet

| Properties | Value (Metric) | Unit | Test Method |
|-------------------------|----------------|------|-------------|
| Mechanical Properties: | | | |
| Flexural Modulus (23°C) | 5470 | psi | ASTM D-790 |
| Compression Set | 25 | % | 22hrs; 23°C |
| Compression Set | 60 | % | 22hrs; 70°C |

For further information refer to Lubrizol Advanced Materials processing guides.

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