

Technical Data Sheet

Type: ESTANE® 58271 is a 85A Polyester Thermoplastic Polyurethane (TPU).

Features: Good physical properties, chemical resistance and adhesive properties and wide processing window for extrusion.

Uses: Blown and flat die/cast film extrusion, Injection and blow molding.

| Physical Properties | Value (Metric) | Unit | Test Method |
|---------------------------|----------------|-----------|-----------------------------|
| Hardness (5 sec) | 85 +/- 3 | Shore A | ASTM D-2240 |
| Specific Gravity | 1.21 | | ASTM D-792 |
| Tensile Strength | 7500 (51.7) | psi (MPa) | ASTM D-412 |
| Ultimate Elongation | 540 | % | " |
| Tensile Stress at: | | | |
| - 100% Elongation | 800 (5.5) | psi (MPa) | ASTM D-412 |
| - 300% Elongation | 1400 (9.7) | psi (MPa) | " |
| Tear Strength: | | | |
| - Graves | 450 (8.0) | lb/in | ASTM D-624 (die C) |
| - Trouser | 130 (3.2) | lb/in | ASTM D-470 |
| Taber Loss (1000 rev) | 0.0012 (34) | oz (mg) | ASTM D-3389 (H18, 1000g) |
| T _m (by DSC) | 248 (120) | °F (°C) | Lubrizol Advanced Materials |
| T _g (by DSC) | -13 (-25) | °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® 58271 TPU is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

Material Preparation

- Prior to processing, ESTANE® 58271 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® 58271 TPU can be processed on any conventional extruder.

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Recommended Starting Extrusion Temperature Profile:

| | °F/°C |
|-----------------------|----------------|
| Zone 1 | 350/177 |
| Zone 2 | 360/182 |
| Zone 3 | 370/188 |
| Zone 4 | 380/193 |
| Adapter (5) | 380/193 |
| Die Zone 1 (6) | 380/193 |
| Die Zone 2 | 380/193 |

Melt Temp. Mid-Range: 375°F/191°C
Screen Pack Recommendation: 20/40/80

Application Information: High Performance Film & Sheet

| Properties | Value (Metric) | Unit | Test Method |
|-------------------------------|----------------|---------|-----------------------------|
| Tensile Set (200% elongation) | 13 | % | ASTM D-412 |
| Kofler Melt Point | 239 (115) | °F (°C) | Lubrizol Advanced Materials |
| Haze (65 mil between glass) | 1.1 | % | ASTM D-1003 |

For further information refer to Lubrizol Advanced Materials processing guides.

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