

# Estane® 58280 TPU

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

Type: Polyether Thermoplastic Polyurethane (TPU)  
Special Feature: High resilience, with Low Tensile and Compression set  
Processes: Extrusion: Blown, Flat Die Cast Film, and Injection Molding

| General Information                                         |                               |                   |             |
|-------------------------------------------------------------|-------------------------------|-------------------|-------------|
| Features                                                    | Low compressive deformability |                   |             |
|                                                             | Elastic                       |                   |             |
| Uses                                                        | Blown Film                    |                   |             |
|                                                             | cast film                     |                   |             |
| RoHS Compliance                                             | RoHS compliance               |                   |             |
| Forms                                                       | Particle                      |                   |             |
| Processing Method                                           | Blow film                     |                   |             |
|                                                             | Extrusion                     |                   |             |
|                                                             | cast film                     |                   |             |
|                                                             | Injection molding             |                   |             |
| Physical                                                    | Nominal Value                 | Unit              | Test Method |
| Specific Gravity                                            | 1.06                          | g/cm <sup>3</sup> | ASTM D792   |
| Hardness                                                    | Nominal Value                 | Unit              | Test Method |
| Durometer Hardness (Shore A)                                | 79                            |                   | ASTM D2240  |
| Mechanical                                                  | Nominal Value                 | Unit              | Test Method |
| Flexural Modulus (23°C, 0.762 mm)                           | 16.2                          | MPa               | ASTM D790   |
| Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel) | 45.0                          | mg                | ASTM D3389  |
| Elastomers                                                  | Nominal Value                 | Unit              | Test Method |
| Tensile Set (200% Strain)                                   | 6                             | %                 | ASTM D412   |
| Tensile Stress                                              |                               |                   | ASTM D412   |
| 100% strain, 0.762mm                                        | 3.80                          | MPa               | ASTM D412   |
| 300% strain, 0.762mm                                        | 6.80                          | MPa               | ASTM D412   |
| Tensile Strength (Break, 0.762 mm)                          | 24.9                          | MPa               | ASTM D412   |
| Tensile Elongation (Break, 0.762 mm)                        | 750                           | %                 | ASTM D412   |
| Tear Strength <sup>1</sup> (0.762 mm)                       | 68.6                          | kN/m              | ASTM D624   |
| Compression Set                                             |                               |                   | ASTM D395   |
| 23°C, 22 hr                                                 | 7.8                           | %                 | ASTM D395   |
| 70°C, 22 hr                                                 | 23                            | %                 | ASTM D395   |

| Extrusion              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 104           | °C   |
| Drying Time            | 2.0 - 4.0     | hr   |
| Suggested Max Moisture | 0.020         | %    |
| Cylinder Zone 1 Temp.  | 177 - 180     | °C   |
| Cylinder Zone 2 Temp.  | 183 - 193     | °C   |
| Cylinder Zone 3 Temp.  | 193 - 199     | °C   |
| Cylinder Zone 4 Temp.  | 199 - 204     | °C   |
| Adapter Temperature    | 210           | °C   |
| Die Temperature        | 210           | °C   |

#### Extrusion instructions

Screens: 20-40-80-20 mesh Dew Point: -40°C Feedthroat Cooling: Yes Screw Cooling: No Screw Speed: 20 to 70 rpm

#### NOTE

1. C mould

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#### Recommended distributors for this material

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