

Technical Data Sheet

Type: Estane® 58280 is a polyether-type thermoplastic polyurethane (TPU) compound.

Features: High resiliency compound, with unique physical properties such as low tensile and compression set, high rebound resiliency, good hysteresis and low specific gravity.

Uses: General extrusion techniques or by injection molding. Excellent for applications such as cable jackets, hose and tubing, and a variety of injection molding applications such as wheel tires, rebound balls, etc.

Typical Properties	Test Method	Typical Values*	
		SI Units	English Units
Physical			
Specific Gravity	ASTM D792	1.06	1.06
Shore Hardness	ASTM D2240	79A / 27D	79A / 27D
Mechanical			
Tensile Strength	ASTM D-412/D-638	24.9 MPa	3600 psi
Modulus			
- 100 % Elongation	ASTM D-412/D-638	3.8 MPa	530 psi
- 300 % Elongation	ASTM D-412/D-638	6.8 MPa	970 psi
Ultimate Elongation	ASTM D-412/D-638	750%	750%
Compression Set			
- 22 hours @23°C	ASTM D-395	7.8%	7.8%
- 22 hours @ 70°C	ASTM D-395	22.9 %	22.9%
Tear Strength	ASTM D-624, Die C		389 lb/in
Water Absorption	ASTM D-570-95	1.5%	1.5%
Flexural Modulus @ 23°C	ASTM D-790	16.2 MPa	2330 psi
Taber Abrasion, H-18 wheel, 1000g load	ASTM D-1044	45 mg / 1000 cycles	45 mg / 1000 cycles
Tensile Set @ 200% Elongation	ASTM D-412	5.60%	560%
Rebound Resistance	ASTM D-2632	72%	72%

*These are typical values and should not be used for establishing specifications. Contact your representative for availability and commercialization status.

** Differential Scanning Calorimeter; melting point was obtained from the second heat on a 20 mg sample with a heating rate of 10°C/min.

Handling Considerations

Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. Although Estane® TPU compounds are dry when packaged, trace amounts of moisture can be absorbed during storage and handling. For best results, always dry the material 2 hours at 104°C (220°F) in a dehumidifying hopper dryer.

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Suggested Start-Up Conditions: Extrusion Process

	Estane® 58280 TPU
Barrel Zone 1	350-360°F (177-180°C)
Barrel Zone 2	360-380°F (183-193°C)
Barrel Zone 3	380-390°F (193-199°C)
Barrel Zone 4	390-400°F (199-204°C)
Adaptor	410°F (210°C)
Die Zone 1	410°F (210°C)
Die Zone 2	410°F (210°C)

Screens: 20-40-80-20 (mesh sizes)

Feedthroat Cooling: Yes

Screw Cooling: No

Screw RPM: 20-70

Pre-drying: 2 hrs @ 220°F by Hopper Dryer (Target Moisture Level = Below 0.03%)

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