

Technical Data Sheet

Type: Estane® R185A is a shore 85A, polyether type thermoplastic polyurethane (TPU). FDA approved (21 CFR 177.2600, 177.1680).

Uses: Injection Molding, Extrusion

Physical Properties	Standard No.	Units	Value
Hardness	ASTM D2240	Shore A	87
Specific Gravity	ASTM D792	g/cm ³	1.10
Mechanical			
Tensile Stress:	ASTM D412	kgf/cm ²	
At 100% elongation			60
At 300% elongation			100
Tensile Strength	ASTM D412	kgf/cm ²	320
Ultimate Elongation	ASTM D412	%	700
Tear Resistance (Die C)	ASTM D624	kgf/cm	95
Abrasion Loss	ISO 4649	mm ³ loss	45
Compression Set	ASTM D395	1	
At 23°C X22hr		%	15
At 70°C X22hr		%	45
Mold Shrinkage	ASTM D955	m/m	0.015
Thermal			
Vicat Softening Temperature	ASTM D1525	°C	90

*Test samples were annealed at 100°C and 24 hours at room temperature before testing.

**These are typical values and should not be used for specifications.

Injection Molding Guide

These settings are to be used only as a guide. This is a typical injection molding temperature profile based on the Test Machine (conditions based on a 75 ton machine with a general purpose screw – L/D 17 – Ø 35mm). The optimal run conditions for specific equipment will vary depending on the machine and mold design.

Drying Conditions

Drying	Conditions
Recommend 1	70-80°C for 4-5 hours by dehumidifying dryer

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Injection Conditions

Barrel Temperature	
Feeding Zone	180~195
Metering Zone	185~200
Nozzle	190~205
Injection Conditions (I)	
Injection Pressure (psi)	1700~2300
Injection Speed	Moderate
Hold pressure (psi)	1200-1800
Injection Time(s)	12-18

Mold Temperature	
10-40	
Injection Conditions (II)	
Back Pressure (psi)	30-80
Screw Speed (rpm)	180-220
Cycle Time(s)	25-35

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