

Technical Data Sheet

Type: Estane® S190A is a Shore 92A, polyester type thermoplastic polyurethane (TPU). FDA approved (21 CFR 177.2600, 177.1680)

Uses: Injection Molding

Physical Properties	Standard No.	Units	Value
Hardness	ASTM D2240	Shore A	92
		Shore D	48
Specific Gravity	ASTM D792	g/cm ³	1.21
Mechanical			
Tensile Stress:	ASTM D412	kgf/cm ²	
At 100% elongation			95
At 300% elongation			190
Tensile Strength	ASTM D412	kgf/cm ²	500
Ultimate Elongation	ASTM D412	%	650
Tear Resistance (Die C)	ASTM D624	kgf/cm	140
Abrasion Loss	ISO 4649	mm ³	30
Compression Set			
At 23°C X22hr		%	15
At 70°C X22hr		%	40
Mold Shrinkage	ASTM D955	m/m	0.009
Thermal			
Vicat Softening Temperature	ASTM D1525	°C	110

*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	185~195
Metering Zone	185~200
Nozzle	190~205
Injection Conditions (I)	
Injection Pressure (psi)	1200~2000
Injection Speed	Slow
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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