

## Technical Data Sheet

**Type:** Estane<sup>®</sup> S175A is a Shore 77A, polyester type thermoplastic polyurethane (TPU).

**Uses:** Injection Molding, Extrusion

Physical Properties	Standard No.	Units	Value
Hardness	ASTM D2240	Shore A	77
Specific Gravity	ASTM D792	g/cm <sup>3</sup>	1.18
<b>Mechanical</b>			
Tensile Stress:	ASTM D412	kgf/cm <sup>2</sup>	
At 100% elongation			35
At 300% elongation			65
Tensile Strength	ASTM D412	kgf/cm <sup>2</sup>	300
Ultimate Elongation	ASTM D412	%	800
Tear Resistance (Die C)	ASTM D624	kgf/cm	80
Abrasion Loss	ISO 4649	mm <sup>3</sup> loss	40
<b>Compression Set</b>			
At 23°C X22hr		%	15
At 70°C X22hr		%	30
Mold Shrinkage	ASTM D955	m/m	0.025
<b>Thermal</b>			
Vicat Softening Temperature	ASTM D1525	°C	84

\*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	170~185
Metering Zone	175~190
Nozzle	180~195
Injection Conditions (I)	
Injection Pressure (psi)	1200~2000
Injection Speed	Slow
Hold pressure (psi)	800~1400
Injection Time(s)	10~15

Mold Temperature	
10-40	
Injection Conditions (II)	
Back Pressure (psi)	30-80
Screw Speed (rpm)	160-200
Cycle Time(s)	30-40

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