Estane® GP 85AB TPU

Technical Data Sheet

Type: Estane® GP 85AB is an aromatic polyester-based thermoplastic polyurethane (TPU).

Appearance: Translucent spherical pellets.

Uses: Injection molding parts

Physical Properties	Test Method	Unit	Value*
Hardness	ISO 868	Shore A Shore D	85 -
Specific Gravity	ISO 2781	g/cm^3	1.20
Modulus of elasticity – tensile test	ISO 527	MPa	17
Tensile Strength at Break	ISO 527	MPa	35
Tensile stress at			
50% Elongation		MPa	5.0
100% Elongation		MPa	6.0
300% Elongation		MPa	14.0
Elongation at Break		%	550
Compression set (1)	ISO 815		
70 hrs / 22°C		%	12
24 hrs / 70°C		%	28
Tear Strength	ISO 34-1B	kN/m	
Nicked			75
Unnicked			112
Abrasion resistance	ISO 4649	mm^3	30
Rebound Resilience	ISO 4662	%	40
Vicat Softening Point A50	ISO 306	°C	111

• Please be aware that listed values are “typical (average) values” and should / can not be applied for specification purposes.
• Suitable test specimen are die cut from injection molded plates 80x90x2mm according to ISO 294-5.
• (1) compression set test samples were post cured for 16 hours @ 120°C.

Material Preparation

Prior to processing, Estane GP 85AB TPU must be dried at 90°C during 2-3 hours. It is recommended to dry the material in a dehumidifying type dryer. Target dew points to be below -30°C.

The moisture content must be less than 0.05%.

http://go.lubrizol.com/EP

Processing Conditions

MFI (190°C / 21.6 kg) = 20 – 40 g / 10 min.

Estane GP 85AB TPU can be injection molded on any conventional molding machine equipped with a general purpose 3-stage screw.

Typical screw L/D ratio is between 18 and 23; the optimum compression ratio is between 2:1 and 3:1.

Typical injection molding temperature profile (conditions based on an 80 Ton machine with a general purpose screw – L/D 23 – Ø 30 mm).

	°C
Feed Zone	40
Zone 1	185 – 195
Zone 2	190 – 200
Zone 3	195 – 205
Zone 4	195 – 205
Nozzle	190 - 200