

**Technical Data Sheet**

**Type:** Estaloc 59300 RETPU is a Polyester-Type Reinforced Engineering Thermoplastic (RETPU).

**Features:** Fast cycling, dimensional stability, durability, aesthetics, low temperature impact.

**Uses:** Injection molding.

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	75 +/- 3	Shore D	ASTM D-2240
Specific Gravity	1.45		ASTM D-792
Tensile Strength	12,000 (83)	psi (MPa)	ASTM D-638
Tensile Modulus	530,000 (3700)	psi (MPa)	"
Elongation	20	%	"
Flexural Strength	13,000 (90)	psi (MPa)	ASTM D-790
Flexural Modulus	420,000 (2900)	psi (MPa)	"
Izod Impact, notched		Ft-lb's/in. (J/M)	ASTM D-256
@ 73°F (23°C)	8 (430)		
@ -40°F (-40°C)	2.4 (130)		

- Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on extruded sheet (30 mils)
- Listed values are "typical (average) values" and should/cannot be applied for specification purposes.

**Supply Form and Standard Packaging**

Estaloc 59300 RETPU is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

**Material Preparation**

- Prior to processing, Estaloc 59300 RETPU must be dried at 220°F (104°C) for 2-4 hours.
- It is recommended to dry the material in a desiccant type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

**Processing Conditions**

Estaloc 59300 RETPU can be processed on any conventional injection molding machine.

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**Recommended Starting Injection Molding Temperature Profile:**

	°F/°C
<b>Rear</b>	<b>410 / 210</b>
<b>Middle</b>	<b>430 / 221</b>
<b>Front</b>	<b>435 / 224</b>
<b>Nozzle</b>	<b>450 / 232</b>
<b>Melt</b>	<b>450 / 232</b>

\* Melt temperature by pyrometer check of air shot

**Fill Rate:** Slow to Moderate

**Screw RPM:** 30-80

**Back Pressure:** 50 psi

**Injection Pressure:** 10,000-15,000 psi (69-103 MPa)

**Holding Pressure:** 5,000-10,000 psi (35-69 MPa)

Properties	Value (Metric)	Unit	Test Method
Thermal Data			
Heat Deformation Temperature			ASTM D-648
66 psi unannealed	TBD	°F(°C)	-
264 psi unannealed	TBD	°F(°C)	-
Shrinkage (average flow and against flow), disc	0.001	in / in	ASTM D- 955
Shrinkage, flex bar	0.0004	in / in	ASTM D- 955

**For further information refer to Lubrizol Advanced Materials processing guides.**

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