

Preliminary Technical Data Sheet

Type: ESTANE[®] ECO 12T80E NAT 01 is an aromatic high performance natural-based polyester Thermoplastic Polyurethane (TPU)

Features: Properties similar to standard TPU of same hardness; excellent mechanical properties and abrasion resistance

Uses: Injection molding, Extrusion

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	82±3	Shore A	ISO 868
Specific Gravity	1.12	g/cm ³	ISO 2781
Tensile Strength	38	MPa	ISO 37
Ultimate Elongation	500	%	
Tensile Stress at:			
- 100 % Elongation	4	MPa	ISO 37
- 300 % Elongation	8	MPa	
Tear Strength			
Graves	75	kN/m	ISO 34B
Abrasion resistance	20	mm ³	ISO4649
Bio-based content	43	%	ASTM D6866-12

Remark:

- Prior to testing samples were conditioned at 23°C for 48 hours
- Listed values are 'typical (average) values' and should/cannot be applied for specification purposes

Supply Form and Standard Packaging

- ESTANE[®] ECO 12T80E NAT 01 is supplied in pellet form and packaged in 25kg bags.

Material Preparation

- Prior to processing, ESTANE[®] ECO 12T80E NAT 01 must be dried at 90-100 °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%.

Material Preparation

- ESTANE[®] ECO 12T80E NAT 01 is injection molded on any conventional molding machine equipped with general purpose screw.
- Typical screw L/D ratio lies between 18 and 23; the optimum compression ratio falls between 2:1 and 2.5:1.

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Recommended Starting INJECTION MOLDING Temperature Profile:

	°C
Feed zone	40
Zone 1	180
Zone 2	190
Zone 3	200
Zone 4	200
Nozzle	200

For further information refer to Lubrizol Advanced Materials processing guides.

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