

# PEARLTHANE® **eco** D12T85

## Thermoplastic Polyurethane

### PROVISIONAL TECHNICAL DATA SHEET

**PEARLTHANE® **eco** D12T85** is a 85 Shore A, High Performance natural TPU based on *Renewable Sources* for Injection Molding applications This natural TPU resin features properties similar to standard TPU of same hardness (i.e. excellent mechanical properties and abrasion resistance).

**PEARLTHANE® **eco** D12T85** contains 44% of renewable material as certified according to ASTM-D6866 (see below).

### APPLICATIONS

**PEARLTHANE® **eco** D12T85** enhances the performance of a wide range of end use products that ranges from automotive, consumer electronics and sport and leisure applications among others where environmentally-friendly materials can bring value to the end product.

### TYPICAL PHYSICAL PROPERTIES

Physical Property	Test Method	Typical Values *
Specific Gravity	ASTM D-792	1.15
Shore Hardness	ASTM D-2240	85 A
Tensile Strength	ASTM D-412	4504 psi
Elongation @ Break	ASTM D-412	530 %
Modulus @ 100% Elongation	ASTM D-412	1017 psi
Modulus @ 300% Elongation	ASTM D-412	2034 psi
Compression Set (70 h. @ 23°C)	ASTM D395B	28 %
Compression Set (24 h. @ 70°C)	ASTM D395B	40 %
Abrasion Loss	DIN 53.516	50 mm <sup>3</sup>
Moisture Content	MQSA 44	< 0.10 %
Melting Range (MFI=10**)	MQSA 111	347 – 365 °F
Tg (DSC, 50°F /10min)	DIN 51.007	-35 °F
Biobased content	ASTM-D6866	44 %

\* These are typical values & should not be used for establishing specifications.

\*\* Temperature at which MFI = 10 g/10 min @ 21.6 kg.

### WORKING INSTRUCTIONS

For optimum results, previous drying of the product during 1-2 hours at 175 - 195° F is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

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**INJECTION MOLDING**

Based on an injection molding equipment with the following characteristics:

Closing force:	: 30 tons
Screw diameter:	: 1.02 in
L/D ratio:	: 23
Maximum hydraulic pressure:	: 3050 psi
Mould:	: Plaque 4.7x4.7x0.08 in

The suggested processing conditions are the following ones:

<b>INJECTION CONDITIONS</b>	
Feed zone	365°F
Compression zone	385°F
Metering zone	390°F
Nozzle	390°F
Mould temperature	95°F

**HEALTH AND SAFETY**

A safety data sheet on **PEARLTHANE® ECO D12T85** is available, with all information related to safety.

**PACKAGING**

**PEARLTHANE® ECO D12T85** is packaged in heat-sealed, moisture proof PE bags of 25 kg net weight. Bags are shipped on pallets of 750 kg. Additionally, PE-lined cardboard gaylords of 700 kg net weight are available.

**STORAGE**

Material received from Merquinsa should be inspected to assure the containers are not damaged during transportation before being stored prior to use. **PEARLTHANE® ECO D12T85** should be kept in a cool (60-75°F) and dry environment prior to being processed. Standard practice of consuming resin on first-in first-out basis should be employed.

For more information, please feel free to contact us at [www.merquinsa.com](http://www.merquinsa.com)