

# PEARLTHANE® **eco** D12T90

## Thermoplastic Polyurethane

### PROVISIONAL TECHNICAL DATA SHEET

**PEARLTHANE® **eco** D12T90** is a 91 Shore A , High Performance natural TPU based on *Renewable Sources* for Injection Moulding applications This natural TPU resin features properties similar to standard TPU of same hardness (i.e. excellent mechanical properties and abrasion resistance).

**PEARLTHANE® **eco** D12T90** contains approximately **37% of renewable material**.

### APPLICATIONS

**PEARLTHANE® **eco** D12T90** 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 *
Density @ 20°C	DIN 53.479	1.15 g/cm <sup>3</sup>
Shore Hardness	DIN 53.505	91 A
Tensile Strength	DIN 53.504	39 MPa
Elongation @ Break	DIN 53.504	470 %
Modulus @ 100% Elongation	DIN 53.504	9.5 MPa
Modulus @ 300% Elongation	DIN 53.504	25 MPa
Tear Strength	DIN 53.515	122 kN/m
Abrasion Loss	DIN 53.516	35 mm <sup>3</sup>
Moisture Content	MQSA 44	< 0.10 %
Melting Range (MFI = 10**)	MQSA 111	190 – 200 °C
Tg (DSC, 10°C / min.)	DIN 51.007	-41 °C
Biobased content	ASTM-D6866	37 %

\* 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 80-90° C is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

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**INJECTION MOULDING**

Based on an injection moulding equipment with the following characteristics:

Closing force:	: 30 tons
Screw diameter:	: 26 mm
L/D ratio:	: 23
Maximum hydraulic pressure:	: 210 bar
Mould:	: Plaque 120x120x2 mm

The suggested processing conditions are the following ones:

<b>INJECTION CONDITIONS</b>	
Feed zone	190°C
Compression zone	195°C
Metering zone	200°C
Nozzle	205°C
Mould temperature	35°C

**HEALTH AND SAFETY**

A safety data sheet on **PEARLTHANE® ECO D12T90** is available, with all information related to safety.

**PACKAGING**

**PEARLTHANE® ECO D12T90** is packaged in heat-sealed, moisture proof PE bags of 25 Kg net weight. Bags are shipped on pallets of 750 Kg. Additionally, PE/Al/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 D12T90** should be kept in a cool (15-25°C) 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)