

PEARLTHANE® MAXI D12T85E

Thermoplastic Polyurethane Elastomer

PROVISIONAL TECHNICAL DATA SHEET

PEARLTHANE® MAXI D12T85E is a polyester based TPU, supplied in form of transparent, colourless pellets, featuring medium hardness, good mechanical properties and outstanding abrasion resistance. This grade is intended for extrusion applications.

APPLICATIONS

PEARLTHANE® MAXI D12T85E can be mainly used for making extruded profiles, hoses and films.

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Typical Values *
Density @ 20°C	DIN 53.479	1.21 g/cm ³
Shore Hardness	DIN 53.505	86 A
Tensile Strength	DIN 53.504	42 MPa
Elongation @ Break	DIN 53.504	580 %
Modulus @ 100% Elongation	DIN 53.504	5.9 MPa
Modulus @ 300% Elongation	DIN 53.504	10.2 MPa
Moisture Content	MQSA 44	< 0.1 %
Melting Range (MFI=10**)	MQSA 111	180-190 °C
Tg (DSC, 10°C/min.)	DIN 51.007	- 45° C

* 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 PEARLTHANE® MAXI D12T85E during 1-2 hours at 100-110° C is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

EXTRUSION

In accordance with our experience, the characteristics of the extruder that are suitable for processing PEARLTHANE® MAXI D12T85E are the following ones:

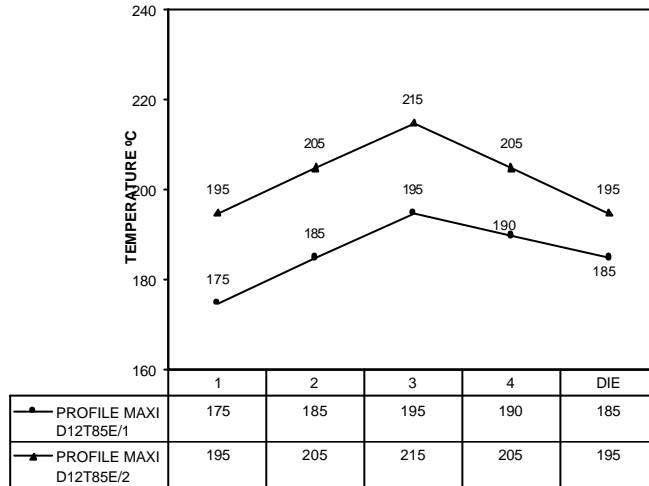
1. L/D ratio between 25:1 and 30:1
2. The extruder screw must have 3 zones and a compression ratio in between 2:1 and 3:1 (usually, the screws that are used for Polyethylene extrusion give good results).
3. The extruder screw should have a continuous regulation device and a working power higher than for processing other plastics.
4. The speed of the extruder should be low (12 to 60 rpm, depending on its diameter), so as to avoid material degradation due to shearing.

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5. The filters used should be disks with holes of 1.5 to 5 mm (depending on the screw and the die), and screen packs (the nr. of meshes /cm² will depend on the end product that is processed), so as to create a pressure built-up.

The suggested processing-temperature profiles for film extrusion (flat films) are depicted in the figure below.



EXTRUDER & CONDITIONS
 TYPE.- 30/25D (L/D=25:1), COOLING.- Air, SCREW.- 3:1, SPEED.- 20-50 rpm.,
 BREAKER PLATE.- --, FILTER PACK.- --, THICKNESS DIE.- 0,2 mm, PRE-DRYING.- 1 h @ 105 °C

HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® MAXI D12T85E** is available, with all information related to safety.

Merquinsa's Products are sold subject to Merquinsa's General Sales Conditions printed on the back of invoices and other shipping documents (available upon request). This is correct information based on our experience, and is given in good faith and without compromise. Each purchaser bears full responsibility for the application, use and processing of Merquinsa's products described herein, as well as their suitability to the purchaser's specific application, as this is beyond Merquinsa's control.

PACKAGING

PEARLTHANE® MAXI D12T85E is packaged in heat-sealed 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® MAXI D12T85E** 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