

PEARLTHANE® 11T85EM

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 11T85EM is a polycaprolactone copolyester based TPU, supplied in form of translucent, colourless or slightly yellowish pellets, combining hardness with excellent mechanical properties. It can be used for a variety of extrusion applications.

TYPICAL PHYSICAL PROPERTIES

Physical Property	Test Method	Typical Values *
Density @ 20°C	DIN 53.479	1.16 g/cm ³
Shore Hardness	DIN 53.505	86 A
Tensile Strength	DIN 53.504	40 MPa
Elongation @ Break	DIN 53.504	615 %
Modulus @ 100% Elongation	DIN 53.504	6 MPa
Modulus @ 300% Elongation	DIN 53.504	10 MPa
Tear Strength	DIN 53.515	80 kN/m
Abrasion Loss	DIN 53.516	25 mm ³
Compression Set (70 h. @ 23°C)	ASTM D395B	25 %
Compression Set (24 h. @ 70°C)	ASTM D395B	40 %
Moisture Content	MQSA 44	< 0.1 %
Melting Range (MFI=10)	MQSA 111	180 - 190 °C
Tg (DSC, 10°C / min.)	DIN 51.007	- 42° 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 the product during 1-2 hours at 100-110° C is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

EXTRUSION

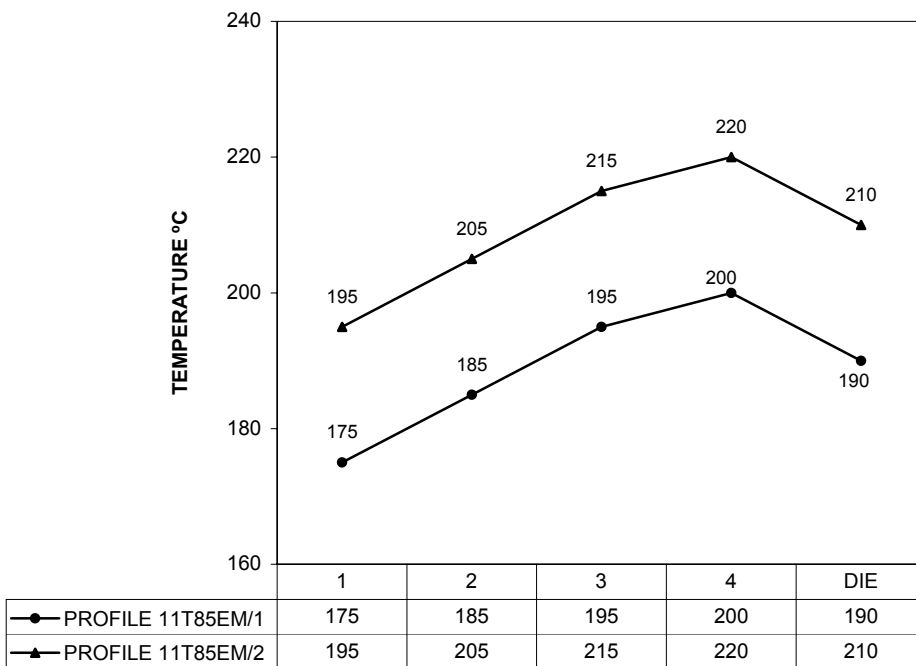
In accordance with our experience, the characteristics of the extruder that are suitable for processing PEARLTHANE® 11T85EM are the following ones:

1. L/D ratio between 25:1 and 30:1
2. The extruder screw must have 3 zones and a compression ratio 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

APPLICATIONS

PEARLTHANE® 11T85EM is highly suitable for spiral hose extrusion, and can also be used for films and tubing. This grade also offers European Food certificate according to CE 2002/72.

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.

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HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® 11T85EM** is available, with all information related to safety.

PACKAGING

PEARLTHANE® 11T85EM is packaged in heat-sealed, moisture proof multi-layer bags of 25 kg net weight made of PE/Aluminium/PE. 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® 11T85EM** 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