PEARLTHANE® 11T86

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 11T86 is a polycaprolactone copolyester based TPU, supplied in form of translucent, colorless pellets, offering adequate hardness, excellent mechanical properties and fast processing conditions. Additionally this grade exhibits low gel content and improved transparency. It can be easily extruded.

TYPICAL PHYSICAL PROPERTIES

Physical Property	Test Method	Typical Values *
Specific Gravity	ASTM D-792	1.16
Shore Hardness	ASTM D-2240	86 A
Tensile Strength	ASTM D-412	5076 psi.
Elongation @ Break	ASTM D-412	575 %
Modulus @ 100% Elongation	ASTM D-412	870 psi.
Modulus @ 300% Elongation	ASTM D-412	1450 psi.
Tear Strength	ASTM D-624 (Die C)	515 lb/in
Abrasion Loss	DIN 53.516	25 mm^3
Compression Set (70 h. @ 73ºF)	ASTM D-395	25 %
Compression Set (24h. @ 158ºF)	ASTM D-395	35 %
Moisture Content	MQSA 44	< 0.1 %
Melting Range *(MFI = 10**)*	MQSA 111	358 ºF – 370 ºF
Tg *(DSC, 50ºF /10min)*	DIN 51.007	- 49 ºF

** 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 210-230º F 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® 11T86** are as follows:

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.

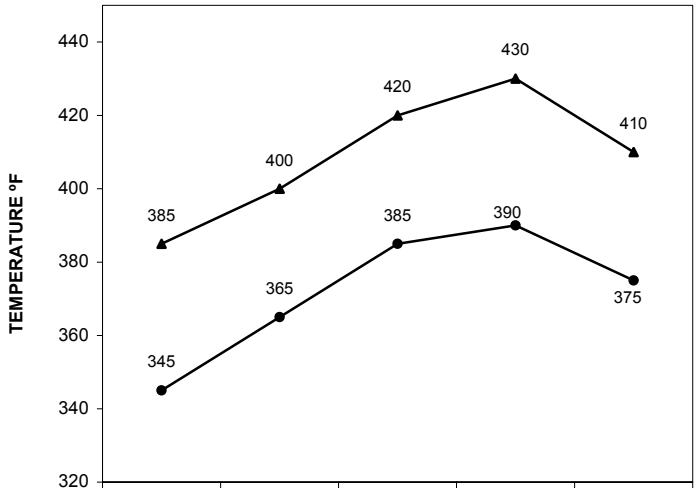
Merquinsa's Products are sold subject to Merquinsa's General Sales Conditions printed on the back of invoices and other shipping documents (available upon request). This is correct information based on our experience, and is given in good faith and without compromise. Each purchaser bears full responsibility 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.

Gran Vial, 17 08160 Montmeló, Spain Tel. (34) 93 572 11 00 Fax (34) 93 572 09 34
E-mail: info@merquinsa.com http://www.merquinsa.com
Registered in Barcelona Trade Register under Tax Identification Number B08530305, volume 31186, folio 106, page B-30777, entry 12.

ISO 9001 CERTIFICATED FIRM
ISO 14001 CERTIFICATED FIRM
Responsible Care®

5. The filters used should be disks with holes of $^{1}/_{16}$ to $^{3}/_{16}$ in. (depending on the screw and the die), and screen packs (the nr. of meshes /in^2 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:



	1	2	3	4	DIE
PROFILE 11T86/1	345	365	385	390	375
PROFILE 11T86/2	385	400	420	430	410

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 @ 220 ºF

APPLICATIONS

PEARLTHANE® 11T86 when processed by extrusion, can be used for making tubes and hoses. This grade also offers European Food certificate according to CE 2002/72.

HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® 11T86** is available, with all the 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.

Gran Vial, 17 08160 Montmeló, Spain Tel. (34) 93 572 11 00 Fax (34) 93 572 09 34
E-mail: info@merquinsa.com http://www.merquinsa.com
Registered in Barcelona Trade Register under Tax Identification Number B08530305, volume 31186, folio 106, page B-30777, entry 12.

ISO 9001 CERTIFICATED FIRM
ISO 14001 CERTIFICATED FIRM
Responsible Care®

PACKAGING

PEARLTHANE® 11T86 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® 11T86** should be kept in a cool (60 - 75 ºF) 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**

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.

Gran Vial, 17 08160 Montmeló, Spain Tel. (34) 93 572 11 00 Fax (34) 93 572 09 34
E-mail: info@merquinsa.com http://www.merquinsa.com
Registered in Barcelona Trade Register under Tax Identification Number B08530305, volume 31186, folio 106, page B-30777, entry 12.

ISO 9001 DNV CERTIFICATED FIRM
ISO 14001 DNV CERTIFICATED FIRM
Responsible Care®