PEARLTHANE® 12K85

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 12K85 is a standard polyester-based TPU supplied in form of translucent, colourless pellets, combining hardness with excellent mechanical properties. It can be easily processed by cast film and blown film extrusion.

TYPICAL PROPERTIES

Property	Test Method	Typical Values *
Density @ 20ºC	DIN 53.479	1.19 g/cm^3
Shore Hardness	DIN 53.505	85 A
Tensile Strength	DIN 53.504	35 MPa
Elongation @ Break	DIN 53.504	600 %
Modulus @ 100% Elongation	DIN 53.504	6 MPa
Modulus @ 300% Elongation	DIN 53.504	10 MPa
Tear Strength	DIN 53.515	145 kN/m
Abrasion Loss	DIN 53.516	26 mm^3
Melting Range	MQSA 70 (Kofler)	155 – 165º C
Tg *(DSC, 10ºC / min)*	DIN 51.007	- 27º C

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

WORKING INSTRUCTIONS

In accordance with our experience, the characteristics of the extruder that is suitable for processing **PEARLTHANE® 12K85** are the following:

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.
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 /cm^2 will depend on the end product which is processed), so as to create a pressure built-up.

For optimum results, previous drying of the product during 1-2 hours at 90-105º C is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

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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E-mail: info@merquinsa.com http://www.merquinsa.com
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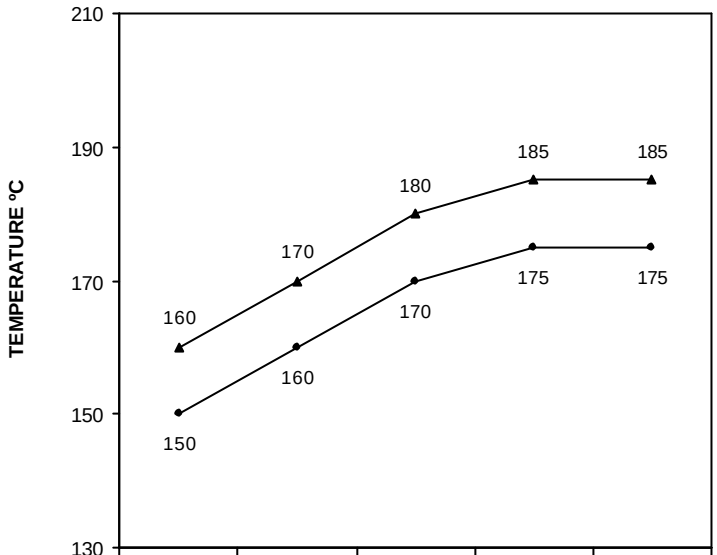
The suggested processing-temperature profiles for film extrusion (flat film) are depicted in the figure below:



	1	2	3	4	DIE
PROFILE 12K85/1	150	160	170	175	175
PROFILE 12K85/2	160	170	180	185	185

EXTRUDER & CONDITIONS
TYPE.- 30/25D (L/D=25:1), COOLING.- Air, SCREW.- 3:1, SPEED.- 50 rpm
BREAKER PLATE.- --. FILTER PACK.- --. THICKNESS DIE.- 0.2 mm. PRE-DRYING.- 1h @105 ºC

CHARACTERISTICS OF THE FILM

Appearance	: Colourless, elastic, translucent	
Softening point	: 130 – 135ºC	*MQSA 70B*
Dry cleaning resistance	: Excellent	

APPLICATIONS

PEARLTHANE® 12K85 is used for the extrusion of films in general, either flat or blown films.

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HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® 12K85** is available, with all information related to safety.

The ingredients of **PEARTHANE® 12K85** comply with F.D.A. regulations, as described under 21 CFR, §177.2600 "Rubber Articles intended for Repeated Use" when **PEARTHANE® 12K85** is used in coatings and adhesives which are in contact with food.

PACKAGING

PEARLTHANE® 12K85 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/Al/PE-lined cardboard gaylords of 700 kg net weight are available.

STORAGE

Material received from Merquinsa should be inspected to assure containers are not damaged during transportation before being stored prior to use. **PEARLTHANE® 12K85** should be kept in a cool (15-25ºC) 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**

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