PEARLTHANE® D12F75UV

Thermoplastic Polyurethane Elastomer

PROVISIONAL TECHNICAL DATA SHEET

PEARLTHANE® D12F75UV is a UV-resistant standard polyester-based TPU supplied in form of translucent, colourless pellets, featuring a low melting point and very low gel content. Processed by extrusion and compounding.

TYPICAL PROPERTIES

Property	Test Method	Typical Values *
Density @ 20ºC	DIN 53.479	1.15 g/cm^3
Shore Hardness	DIN 53.505	78 A
Tensile Strength	DIN 53.504	30 MPa
Elongation @ Break	DIN 53.504	620 %
Modulus @ 100% Elongation	DIN 53.504	5 MPa
Modulus @ 300% Elongation	DIN 53.504	6.5 MPa
Tear Strength	DIN 53.515	155 kN/m
Abrasion Loss	DIN 53.516	35 mm^3
Compression Set (70 h. @ 23ºC)	ASTM D395B	30 %
Compression Set (24 h. @ 70ºC)	ASTM D395B	55 %
Moisture Content	MQSA 44	< 0.1 %
Melting Range(MFI=10)	MQSA 111	130 – 140 ºC
Tg (DSC, 10ºC / min.)	DIN 51.007	-30º 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

In accordance with our experience, the characteristics of the extruder that is suitable for processing **PEARLTHANE® D12F75UV** 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 no. of meshes /cm^2 will depend on the end product which is processed), so as to create a pressure built-up.

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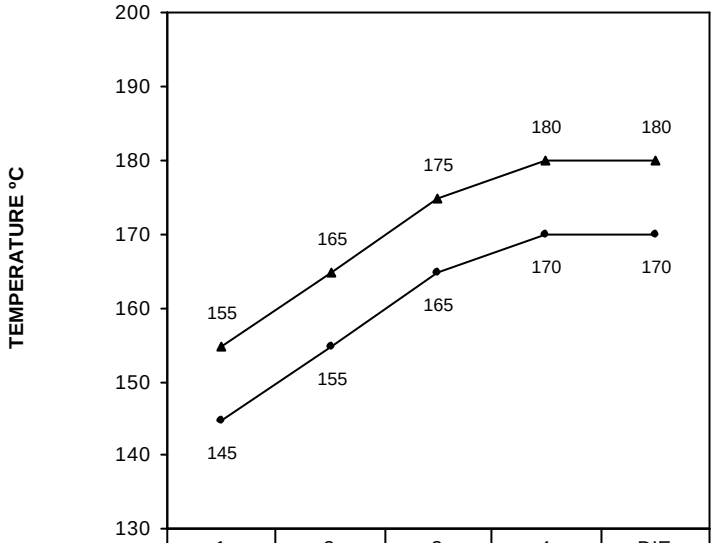
For optimum results, previous drying of the product during 1-2 hours at 90-105º C is advisable, in a hot air circulatory, vacuum or desiccant-air dryer.

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



	1	2	3	4	DIE
PROFILE D12F75UV/1	145	155	165	170	170
PROFILE D12F75UV/2	155	165	175	180	180

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

APPLICATIONS

PEARLTHANE D12F75UV is designed for a wide variety of adhesive film applications requiring excellent adhesion in combination with good heat resistance. This grade can be both cast extruded and blown. Otherwise this grade is also adequate for PVC compounding.

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HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® D12F75UV** is available, with all the information related to safety.

PACKAGING

PEARLTHANE® D12F75UV 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 containers are not damaged during transportation before being stored prior to use. **PEARLTHANE® D12F75UV** 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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