

# PEARLTHANE® 12F75UV

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 12F75UV 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 @ 20°C	DIN 53.479	1.15 g/cm <sup>3</sup>
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 <sup>3</sup>
Compression Set (70 h. @ 23°C)	ASTM D395B	30 %
Compression Set (24 h. @ 70°C)	ASTM D395B	55 %
Moisture Content	MQSA 44	< 0.1 %
Melting Range(MFI=10)	MQSA 111	130 – 140 °C
Tg (DSC, 10°C / min.)	DIN 51.007	-30° 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

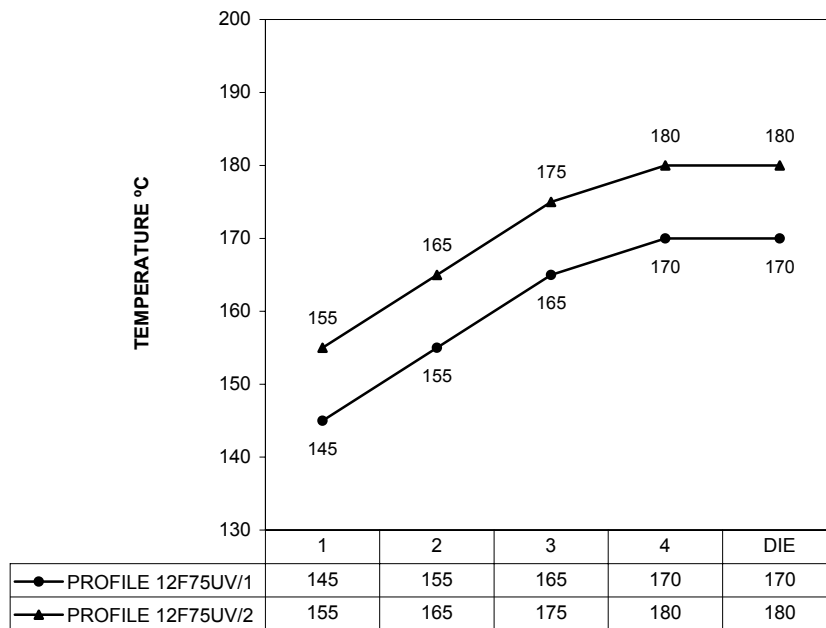
In accordance with our experience, the characteristics of the extruder that is suitable for processing PEARLTHANE® 12F75UV are the following:

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

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For optimum results, previous drying of the product during 1-2 hours at 90-105° 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:



**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 °C

**APPLICATIONS**

**PEARLTHANE 12F75UV** 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.

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® 12F75UV** is available, with all the information related to safety.

**PACKAGING**

**PEARLTHANE® 12F75UV** 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 containers are not damaged during transportation before being stored prior to use. **PEARLTHANE® 12F75UV** 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](http://www.merquinsa.com)