

PEARLTHANE® D12F75UV

Thermoplastic Polyurethane Elastomer

PROVISIONAL TECHNICAL DATA SHEET

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

TYPICAL PROPERTIES

Property	Test Method	Typical Values *
Specific gravity	ASTM D-792	1.15
Shore Hardness	ASTM D-2240	78 A
Tensile Strength	ASTM D-412	4360 psi
Elongation @ Break	ASTM D-412	620 %
Modulus @ 100% Elongation	ASTM D-412	725 psi
Modulus @ 300% Elongation	ASTM D-412	945 psi
Tear Strength	ASTM D-624 (Die C)	885 lb/in
Abrasion Loss	DIN 53.516	35 mm ³
Compression Set (70 h. @ 73°F)	ASTM D-395	30 %
Compression Set (24h. @ 158°F)	ASTM D-395	55 %
Moisture Content	MQSA 44	< 0.1 %
Melting Range (MFI=10)	MQSA 114	266 – 284 °F
Tg (DSC, 50°F / min.)	DIN 51.007	-22° F

* 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 are suitable for processing **PEARLTHANE® D12F75UV** are the following:

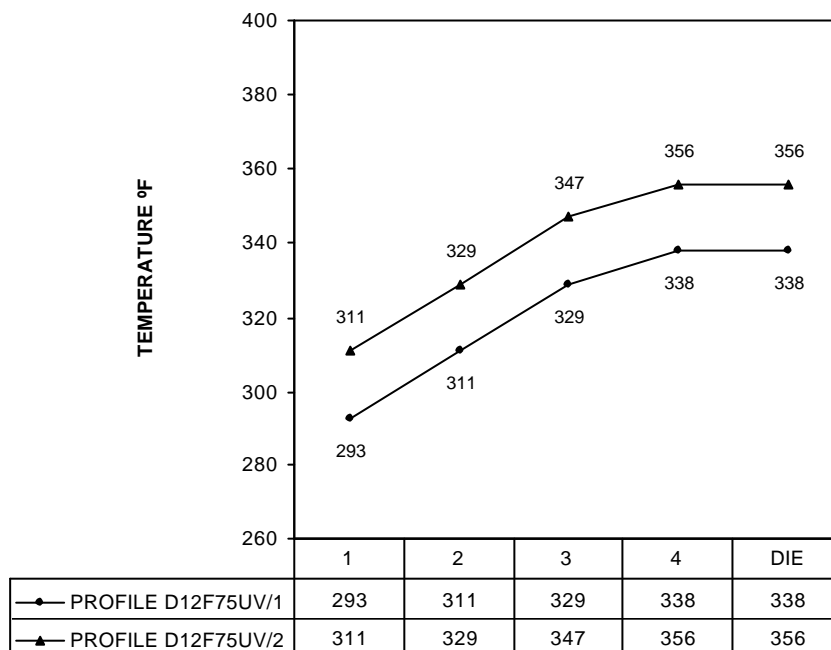
1. L/D ratio between 25:1 and 30:1
2. The extruder screw must have 3 zones and a compression ratio in between 2:1 and 3:1 (Usually, the screws that are used for Polyethylene extrusion give good results).
3. The extruder screw should have a continuous regulation device and a working power higher than 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 $\frac{1}{16}$ to $\frac{3}{16}$ in (depending on the screw and the die), and screen packs (the no. of meshes /in² 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 210 - 230 °F 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 @220 °F

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.

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® 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 (60-75°F) 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