

# PEARLTHANE® 12F75

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 12F75 is a polyester based TPU supplied in form of translucent, colorless pellets, featuring a low melting point and very low gel content. It can be easily processed by cast film and blown film extrusion.

## TYPICAL PROPERTIES

Property	Test Method	Typical Values *
Specific gravity	ASTM D-792	1.19
Shore Hardness	ASTM D-2240	78 A
Tensile Strength	ASTM D-412	4351 psi
Elongation @ Break	ASTM D-412	620 %
Modulus @ 100% Elongation	ASTM D-412	725 psi
Modulus @ 300% Elongation	ASTM D-412	943 psi
Tear Strength	ASTM D-624 (Die C)	885 lb/in
Abrasion Loss	DIN 53.516	20 mm <sup>3</sup>
Moisture Content	MQSA 44	< 0.1 %
Melting Range (MFI=10)**	MQSA 114	275 – 293 °F
Softening Range (film 300µm)	MQSA 70 (Köfler)	230 - 245 °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.

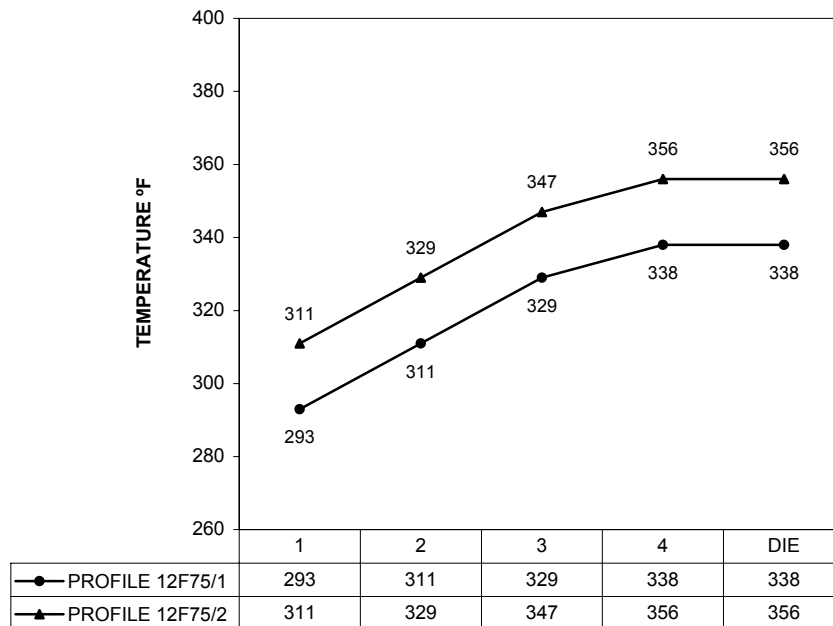
## WORKING INSTRUCTIONS

In accordance with our experience, the characteristics of the extruder that are suitable for processing PEARLTHANE® 12F75 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 nr. of meshes /in<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 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® 12F75** 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® 12F75** is available, with all information related to safety.

The ingredients of **PEARLTHANE® 12F75** comply with F.D.A. regulations, as described under **21 CFR, §177.2600 “Rubber Articles intended for Repeated Use”** when **PEARLTHANE® 12F75** is used in coatings and adhesives that are in contact with food.

**PACKAGING**

**PEARLTHANE® 12F75** 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® 12F75** 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](http://www.merquinsa.com)