

PEARLTHANE® D11F60

Thermoplastic Polyurethane Elastomer

PROVISIONAL TECHNICAL DATA SHEET

PEARLTHANE® D11F60 is a linear, aromatic polyurethane of very high crystallization rate and low thermoplasticity. It is used for adhesive film applications, where high bond strength and low activation temperatures are required. **PEARLTHANE® D11F60** is solvent-free.

TYPICAL PHYSICAL PROPERTIES

Physical Property	Test Method	Typical Values *
Density @ 20°C	ASTM D-792	1.19
Shore Hardness	ASTM D-2240	92 A
Tensile Strength	ASTM D-412	5801 psi
Elongation @ Break	ASTM D-412	825 %
Modulus @ 100% Elongation	ASTM D-412	1160 psi
Modulus @ 300% Elongation	ASTM D-412	1305 psi
Softening Point Film	MQSA 91 (Kofler)	160 - 175 °F
Crystallization Rate	MQSA 12B	Very High

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

WORKING INSTRUCTIONS

It is recommended to dry the material before use, ideally in a desiccant dryer for 10-15 hours at a maximum temperature of 100-110 °F.

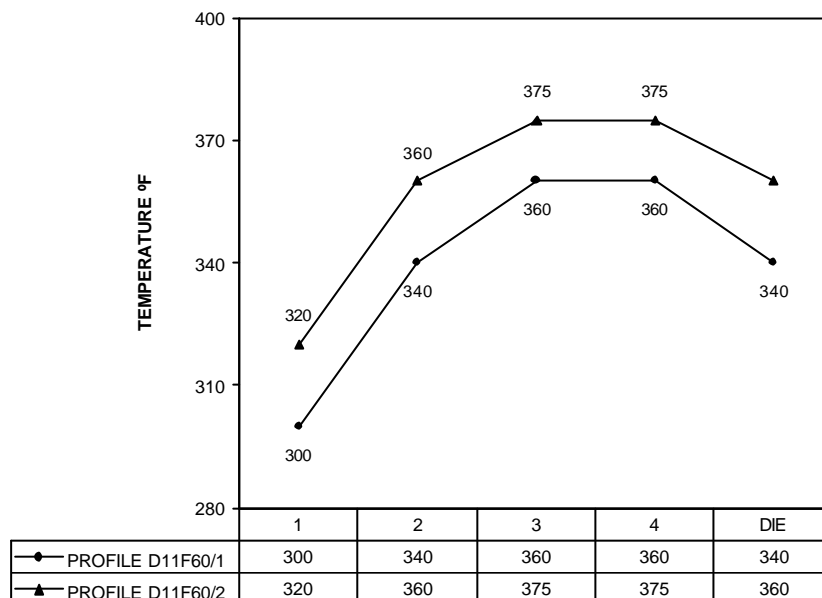
In accordance with our experience, the characteristics of the extruder that are suitable for processing **PEARLTHANE® D11F60** are the following:

1. L/D ratio between 25:1 and 30:1
2. The extruder screw must have 3 zones and a compression ratio 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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The suggested temperature profiles for film extrusion (flat film production) are depicted in the figure below:



EXTRUDER & CONDITIONS
 TYPE - 30/25D (L/D=25:1), COOLING - Air, SCREW - 3:1, SPEED - 25-50 rpm
 BREAKER PLATE - --, FILTER PACK - --, THICKNESS DIE - 0,2 mm, PRE-DRYING - 15h @ 100°F

CHARACTERISTICS OF THE FILM

- Appearance : Colorless, elastic, translucent or white (depending on thickness).
- Softening point : 160 - 175 °F MQSA 91 (Kofler)
- Dry cleaning resistance : None
- Homewash resistance : Good

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.

APPLICATIONS

PEARLTHANE® D11F60 is used for obtaining PU films, for solvent-free adhesion, by heat-seal process.

Once activated, the films made with **PEARLTHANE® D11F60** provide bonds with high initial values, and which have good heat resistance. The adhesion to PVC, rubber and polyurethane materials, as well as to a variety of fabrics, is excellent.

HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE® D11F60** is available, with all the information related to safety.

PACKAGING

PEARLTHANE® D11F60 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

PEARLTHANE® D11F60 should be **stored in a cool (60 – 75 °F) and dry place** during a period that should not exceed 6 months, in well-sealed containers.

For more information, please feel free to contact us at www.merquinsa.com