

PEARLCOAT® 163K

Thermoplastic Polyurethane Elastomer

PEARLCOAT® 163K is a polyether based TPU, supplied in form of translucent, colorless pellets, combining hardness with excellent low temperature flexibility and very good hydrolysis resistance.

Physical Property	Test Method	Typical Values *
Specific Gravity	ASTM D-792	1.12
Shore Hardness	ASTM D-2240	85 A
Tensile Strength	ASTM D-412	4359 psi.
Modulus @ 100% Elongation	ASTM D-412	872 psi.
Modulus @ 300% Elongation	ASTM D-412	1455 psi.
Elongation @ Break	ASTM D-412	440 %
Abrasion Loss	DIN 53.516	25 mm ³
Melting Range (MFI=10)	MQSA 111	330-345 °F
Softening Range (film 300µm)	MQSA 70 (Köfler)	310-330 °F
Tg (DSC, 50°F / min)	DIN 51.007	- 58 °F

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

APPLICATIONS

PEARLCOAT® 163K is used in melt coatings on textile substrates, for end-uses in industrial coatings (for life-jackets, etc.) obtained by extrusion and calendaring.

WORKING INSTRUCTIONS

In accordance with our experience, the characteristics of the extruder that are suitable for processing PEARLCOAT® 163K 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.

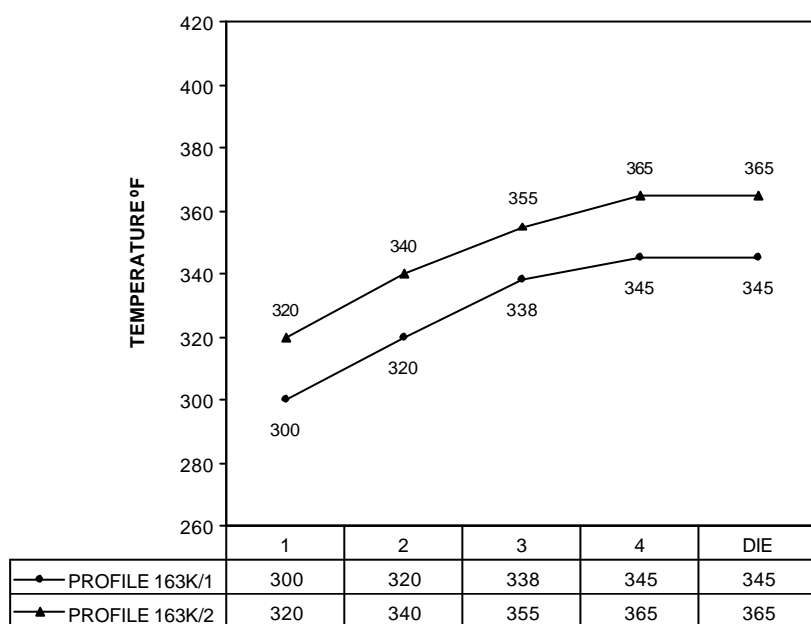
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5. The filters used should be disks with holes of $1/16$ to $3/16$ in (depending on the screw and the die), and screen packs (the nr. of meshes /in² will depend on the end product that is processed), so as to create a pressure built-up.

For optimum results, previous drying of the product during 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

HEALTH AND SAFETY

A safety data sheet on **PEARLCOAT® 163K** is available, with all information related to safety.

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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The ingredients of **PEARLCOAT® 163K** comply with F.D.A. regulations, as described under 21 CFR, §177.2600 "Rubber Articles intended for Repeated Use" when **PEARLCOAT® 163K** is used in coatings and adhesives which are in contact with food.

PACKAGING

PEARLCOAT® 163K 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. **PEARLCOAT® 163K** 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