

# PEARLTHANE® 11T65D

Thermoplastic Polyurethane Elastomer

**PEARLTHANE 11T65D** is a polycaprolactone copolyester based TPU, supplied in form of translucent, colourless or slightly yellowish pellets, combining very high hardness with excellent mechanical properties. It is especially advisable for use in producing technical parts by injection moulding.

## TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Typical Values *
Density @ 20°C	DIN 53.479	1.20 gr/cm <sup>3</sup>
Shore Hardness	DIN 53.505	64 D
Tensile Strength	DIN 53.504	35 MPa
Elongation @ Break	DIN 53.504	440 %
Modulus @ 100% Elongation	DIN 53.504	25 MPa
Modulus @ 300% Elongation	DIN 53.504	31 MPa
Tear Strength	DIN 53.515	210 kN/m
Abrasion Loss	DIN 53.516	25 mm <sup>3</sup>
Compression Set (70 h. @ 23°C)	ASTM D395B	35 %
Compression Set (24 h. @ 70°C)	ASTM D395B	50 %
Moisture Content	MQSA 44	< 0.05 %
Melting Range (MFI=10**)	MQSA 111	230 – 235 °C
Tg (DSC, 10°C / min.)	DIN 51.007	- 23°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

It is recommended to dry the material before use, ideally in a desiccant dryer for 1-2 hours, with hot air or vacuum at 100-110°C.

### INJECTION MOULDING

Based on an injection moulding equipment with the following characteristics:

Closing force:	30 tons
Screw diameter:	26 mm
L/D ratio:	23
Maximum hydraulic pressure:	210 bar
Mould:	Plaque 120x120x2 mm

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The suggested processing conditions are the following ones:

INJECTION CONDITIONS			
Feed zone	220°C	Injection pressure	120 bar
Compression zone	225°C	Injection time	4.6 sec
Metering zone	230°C	Holding pressure	50 bar
Nozzle	225°C	Holding time	15 sec
Mould temperature	25°C	Cooling time	35 sec

Screw speed : approx. 140 rpm

### APPLICATIONS

**PEARLTHANE 11T65D** is especially adequate for the production of shoe heels and top - pieces, as well as technical parts. Also adequate for the production of compounds for the automotive industry.

### HEALTH AND SAFETY

A safety data sheet on **PEARLTHANE 11T65D** is available, with all information related to safety.

### PACKAGING

**PEARLTHANE 11T65D** 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 the containers are not damaged during transportation before being stored prior to use. **PEARLTHANE 11T65D** 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.

Our **TECHNICAL SERVICE** will answer any inquiries about our product and its applications.