

# PEARLTHANE® 11T85

Thermoplastic Polyurethane Elastomer

PEARLTHANE® 11T85 is a polycaprolactone copolyester based TPU, supplied in form of translucent, colorless pellets, offering adequate hardness, excellent mechanical properties and easy processing. Ideally used for injection molding.

## TYPICAL PHYSICAL PROPERTIES

| Physical Property               | Test Method        | Typical Values *   |
|---------------------------------|--------------------|--------------------|
| Specific Gravity                | ASTM D-792         | 1.16               |
| Shore Hardness                  | ASTM D-2240        | 86 A               |
| Tensile Strength                | ASTM D-412         | 5801 psi.          |
| Elongation @ Break              | ASTM D-412         | 640 %              |
| Modulus @ 100% Elongation       | ASTM D-412         | 870 psi.           |
| Modulus @ 300% Elongation       | ASTM D-412         | 1450 psi.          |
| Tear Strength                   | ASTM D-624 (Die C) | 515 lb/in          |
| Abrasion Loss                   | DIN 53.516         | 20 mm <sup>3</sup> |
| Compression Set (22 h. @ 77°F)  | ASTM D-395         | 25 %               |
| Compression Set (24 h. @ 158°F) | ASTM D-395         | 35 %               |
| Moisture Content                | MQSA 44            | < 0.1 %            |
| Melting Range (MFI = 10**)      | MQSA 111           | 352 °F – 370 °F    |
| Tg (DSC, 50°F/10min)            | DIN 51.007         | - 49 °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

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.

### INJECTION MOLDING

Based on an injection molding equipment with the following characteristics:

|                             |                           |
|-----------------------------|---------------------------|
| Closing force:              | : 30 tons                 |
| Screw diameter:             | : 1.02 in                 |
| L/D ratio:                  | : 23                      |
| Maximum hydraulic pressure: | : 3050 psi.               |
| Mold:                       | : Plaque 4.7x4.7x0.08 in. |

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The suggested processing conditions are as follows:

**INJECTION CONDITIONS**

|                  |       |                    |          |
|------------------|-------|--------------------|----------|
| Feed zone        | 380°F | Injection pressure | 1450 psi |
| Compression zone | 390°F | Injection time     | 2.8 sec  |
| Metering zone    | 410°F | Holding pressure   | 870 psi  |
| Nozzle           | 410°F | Holding time       | 15 sec   |
| Mold temperature | 95°F  | Cooling time       | 10 sec   |

*Screw speed: approx. 105 rpm.*

**APPLICATIONS**

**PEARLTHANE® 11T85** when processed by injection molding, can be used for making shoe soles, screens (mining industry), automotive parts, etc.

**HEALTH AND SAFETY**

A safety data sheet on **PEARLTHANE® 11T85** is available, with all the information related to safety.

**PACKAGING**

**PEARLTHANE® 11T85** 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® 11T85** 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)