

Technical Data Sheet

Type: Polycaprolactone copolyester-based Aliphatic Thermoplastic Polyurethane with a 88 Shore A Hardness.

Features: Translucent resin with excellent colour stability upon UV exposure.

Uses: Injection moulding outdoor applications.

| Physical Properties | Value (Metric) | Unit | Test Method |
|---------------------------|----------------|-------------------|------------------------------|
| Hardness (3 sec) | A/3: 88 | Shore A | ISO 868 / ASTM D-2240 |
| Specific Gravity | 1.11 | g/cm ³ | ISO 2781 / ASTM D-792 |
| Tensile Strength | 25 (3626) | MPa (psi) | ISO 527-2 / ASTM D-412 |
| Ultimate Elongation | 650 | % | ISO 527-2 / ASTM D-412 |
| Tensile Stress at: | | | ISO 527-2 / ASTM D-412 |
| - 100 % Elongation | 5 (725) | MPa (psi) | ISO 527-2 / ASTM D-412 |
| - 300 % Elongation | 9 (1305) | MPa (psi) | ISO 527-2 / ASTM D-412 |
| Abrasion Loss | 30 | mm ³ | ISO 4649 |
| Tear Strength | 91 (520) | kN/m (lb/in) | ISO 34-1B (ASTM D-624 Die C) |
| Vicat Softening point A50 | 85 (185) | °C (°F) | ISO 306 |
| Moisture Content | < 0.1 | % | MQSA 44 |

- Based on injected plaques
- Prior to testing samples were conditioned at 23°C for 24 hours

Supply Form and Standard Packaging

- **PEARLTHANE™ 91T85** is supplied in pellet form and packaged in 25 kg (x lb) bags or 700-800 kg boxes (x-y lbs).

Material Preparation

- Prior to processing, **PEARLTHANE™ 91T85** must be dried at 90°C (176-194°F) for 2 hours.
- It is recommended to dry the material in a vacuum or dehumidifying type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

Material Preparation

- **PEARLTHANE™ 91T85** can be processed on any conventional injection molding.

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Recommended Starting INJECTION MOLDING Temperature Profile:

| | °C/°F |
|-------------------------|----------------|
| Feeding zone | 180/356 |
| Zone 2 | 185/365 |
| Zone 3 | 190/374 |
| Nozzle | 190/374 |
| Mold Temperature | 35/95 |

For further information refer to Lubrizol Advanced Materials processing guides.

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