

Material Data Sheet

PLMPUR-X | P1104 *(TPU)*

General Information

PLMPUR-X is a thermoplastic polyurethane elastomer based on Polycaprolactone polyol. Compared to PLMPUR, this material has higher hardness, higher pressure resistance and excellent friction and wear performance.

PLMPUR-X is primarily used in sealing applications that require superior mechanical performance combined with low friction characteristics and stick-slip free operations such as a composite seals in mineral oil hydraulic cylinders.

Physical properties

| Colour: | | | Dark Green |
|------------------------------|----------------------|-------------------|-------------|
| Hardness: | DIN ISO 7619 (3 sec) | Shore A | 97 +/-2 |
| Hardness: | DIN ISO 7619 (3 sec) | Shore D | 58 +/-2 |
| Density: | DIN EN ISO 1183-1 | g/cm ³ | 1.20+/-0.02 |
| 100% Modulus: | DIN53504 | N/mm ² | ≥18 |
| Tensile strength: | DIN53504 | N/mm ² | ≥48 |
| Elongation at break: | DIN53504 | % | ≥400 |
| Tear strength: | DIN ISO 34-1 | N/mm | ≥140 |
| Compression set: 24h/70°C* | DIN ISO 815 | % | ≤27 |
| Compression set: 24h/100°C** | DIN ISO 815 | % | ≤33 |
| Abrasion: | DIN ISO4649 | mm^3 | ≤17 |
| Min.service temperature: | ISO 11357-2 | °C | -30 |
| Max.service temperature: | ISO 11357-2 | °C | 110 |

^{* 24} h 70°C 20% deflection/** 24 h 100°C 20% deflection

Remark

All test methods and values mentioned above are corresponding to ISO and/or DIN standards. The properties have been determined on standardized test specimen and can not be directly related to any component or finished item. All tests are made under laboratory conditions. The mentioned values are nominal values and must be fulfilled – considering related tolerances – for each material batch.

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