

**LUVOCOM® 1-1120-M**

Polyamide 66

with PTFE, lubricant modified, high viscosity, black

| Physical properties    |            | Test method | Specimen   | Units             | Typical value |
|------------------------|------------|-------------|------------|-------------------|---------------|
| Specific gravity       |            | ISO 1183-3  |            | g/cm <sup>3</sup> | 1,27          |
| Water absorption       | 23°C / 24h | ISO 62      | ISO 3167 A | %                 | <1,0          |
| Linear mould shrinkage |            | DIN 16742   | ISO 3167 A | %                 | 1,6-3,0       |

**Mechanical properties** at 23°C / 50% rh

|                            |                 |             |            |                   |     |
|----------------------------|-----------------|-------------|------------|-------------------|-----|
| Tensile strength           | dry, @50 mm/min | ISO 527     | ISO 3167 A | MPa               | 66  |
| Elongation @Fmax.          | dry, @50 mm/min | ISO 527     | ISO 3167 A | %                 | 5   |
| Tensile modulus            | dry, @1 mm/min  | ISO 527     | ISO 3167 A | GPa               | 2,8 |
| Flexural strength          | dry, @10 mm/min | ISO 178     | ISO 3167 A | MPa               | 105 |
| Flexural elongation @Fmax. | dry, @10 mm/min | ISO 178     | ISO 3167 A | %                 | 6   |
| Flexural modulus           | dry, @2 mm/min  | ISO 178     | ISO 3167 A | GPa               | 2,5 |
| Impact strength            | dry             | ISO 179 1eU | 80x10x4mm  | kJ/m <sup>2</sup> | 85  |
| Impact strength            | -30°C           | ISO 179 1eU | 80x10x4mm  | kJ/m <sup>2</sup> | 67  |
| Impact strength, notched   | dry             | ISO 179 1eA | 80x10x4mm  | kJ/m <sup>2</sup> | 5   |

**Thermal properties**

|                          |                           |             |            |                     |     |
|--------------------------|---------------------------|-------------|------------|---------------------|-----|
| Vicat softening temp.    | VST A                     | DIN ISO 306 | ISO 3167 A | °C                  | 230 |
| Heat distortion temp.    | HDT A                     | ISO 75      | 80x10x4mm  | °C                  | 75  |
| Continuous service temp. | 20.000 h                  | IEC 60216   | ISO 3167 A | °C                  | 110 |
| Service temperature      | during lifetime max. 200h |             | ISO 3167 A | °C                  | 160 |
| CLTE, longitudinal       |                           | ISO 11359   | 10x8x4 mm  | 10 <sup>-5</sup> /K | 6   |

**Electrical properties**

|                       |                     |                  |              |   |                   |
|-----------------------|---------------------|------------------|--------------|---|-------------------|
| Insulation resistance | strip electrode R25 | DIN EN 62631-3-3 | ISO 3167 A   | Ω | >10 <sup>12</sup> |
| Surface resistance    | ROB                 | DIN EN 62631-3-2 | Ronde 60x4mm | Ω | >10 <sup>12</sup> |

**Tribological properties**

|                             |                      |           |               |                                      |      |
|-----------------------------|----------------------|-----------|---------------|--------------------------------------|------|
| CoF - Block on Ring         | 100Cr6, 2 MPa, 2 m/s | ASTM G137 | molded sample |                                      | 0,36 |
| Sp. Wear Rate-Block on Ring | 100Cr6, 2 MPa, 2 m/s | ASTM G137 | molded sample | 10 <sup>-6</sup> mm <sup>3</sup> /Nm | 0,6  |

**Main features**

Improved friction and wear behaviour. Optimised for dry running operations. Isotropic shrinkage characteristics.

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## Recommended processing parameters

### Delivery form & storage

Unless indicated otherwise, the material is delivered as 3mm long pellets in sealed bags on pallets. Preferably storage should be effected in dry and normally temperatured rooms.

### Predrying

It is advisable to predry the granules with a suitable dryer immediately before processing. The granule may absorb moisture from the environment.

| Dryer type          | Temperature °C | Drying time in h |
|---------------------|----------------|------------------|
| Dehumidifying dryer | 75             | 6 - 16           |
| Vacuum Dryer        | 105            | 4 - 6            |

### Recommended processing parameters

In general this product can be processed on conventional injection moulding machines while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder and screw should be protected against wear as is usual in the processing of reinforced thermoplastic materials. Lengthy dwell times for the melts in the cylinder should be avoided. Lower the temperatures during interruptions!

| Mold        | Melt temperature | Nozzle       | Zone 3       | Zone 2       | Zone 1       |
|-------------|------------------|--------------|--------------|--------------|--------------|
| 90 - 120 °C | 290 °C           | 280 - 300 °C | 290 - 310 °C | 290 - 310 °C | 290 - 310 °C |

### Additional information

During processing the moisture level should not exceed 0.05%, otherwise molecular degradation and surface defects (e.g. smearing) may occur. Excessively high predrying temperatures may cause discoloration. The processing notes provided merely represent a recommendation for general use. Due to the large variety of machines, geometries and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.