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Technical data sheet- POM 3D filament

| Printing features | Settings |
|--------------------------------|--|
| Extrusion temperature | Between 230 and 250°C |
| Bed temperature | Between 90° and 110° |
| Bed type | POM plate |
| Bed surface treatment | Sanding grain (100) |
| Chamber temperature | ≈ 50°C |
| Ventilation | 25%/increase possible after first layers |
| Printing speed | Approximately 30 mm/sec |
| Shrinkage speed | 36 mm/sec |
| Shrinkage distance | 0.8 mm |
| Min. 3D printing skills | Experienced to professional |

Recommendations :

- Printers must have an enclosed chamber, but not necessarily heated.
- For use and handling in a well-ventilated room

THESE VALUES ARE INDICATIVE AND MAY VARY

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Non-contractual information

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| Physical properties | Value | Unit | Test Standard |
|---------------------------------|-------|------------------------|---------------|
| Density | 1410 | kg/m ³ | ISO 1183 |
| Melt flow rate, MFR | 2,9 | g/10min | ISO 1133 |
| MFR temperature | 190 | °C | ISO 1133 |
| MFR load | 2,16 | kg | ISO 1133 |
| Melt volume rate, MVR | 2,5 | cm ³ /10min | ISO 1133 |
| MVR temperature | 190 | °C | ISO 1133 |
| MVR load | 2,16 | kg | ISO 1133 |
| Humidity absorption, 23°C/50%RH | 0,2 | % | ISO 62 |

| Mechanical properties | Value | Unit | Test Standard |
|--------------------------------------|-------------------|-------------------|---------------|
| Tensile modulus | 2400 | MPa | ISO 527-2/1A |
| Tensile stress at yield, 50mm/min | 61 | MPa | ISO 527-2/1A |
| Tensile strain at yield, 50mm/min | 11 | % | ISO 527-2/1A |
| Flexural modulus, 23°C | 2400 | MPa | ISO 178 |
| Charpy impact strength, 23°C | 250 ^{P1} | kJ/m ² | ISO 179/1eU |
| Charpy impact strength, -30°C | 250 | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 8,5 | kJ/m ² | ISO 179/1eA |

P: Partial Break

| Thermal properties | Value | Unit | Test Standard |
|--|-------|--------|----------------|
| Melting temperature, 10°C/min | 163 | °C | ISO 11357-1/-3 |
| DTUL at 1.8 MPa | 91 | °C | ISO 75-1, -2 |
| Vicat softening temperature, 50°C/h 50N | 160 | °C | ISO 306 |
| Coeff. of linear therm expansion, parallel | 1,1 | E-4/°C | ISO 11359-2 |
| Coeff. of linear therm expansion, normal | 1 | E-4/°C | ISO 11359-2 |

| Test specimen production | Value | Unit | Test Standard |
|---------------------------------------|--------|------|---------------|
| Processing conditions acc. ISO | 9988-2 | - | Internal |
| Injection Molding, melt temperature | 205 | °C | ISO 294 |
| Injection Molding, mold temperature | ≥90 | °C | ISO 294 |
| Injection Molding, injection velocity | 140 | mm/s | ISO 294 |
| Injection Molding, pressure at hold | 86 | MPa | ISO 294 |

Typical injection moulding processing conditions

| Pre Drying | Value | Unit | Test Standard |
|--------------------------|-----------|------|---------------|
| Drying time | 3 - 4 | h | - |
| Drying temperature | 100 - 120 | °C | - |
| Temperature | Value | Unit | Test Standard |
| Hopper temperature | 20 - 30 | °C | - |
| Feeding zone temperature | 60 - 80 | °C | - |
| Zone1 temperature | 170 - 180 | °C | - |
| Zone2 temperature | 180 - 190 | °C | - |
| Zone3 temperature | 190 - 200 | °C | - |
| Zone4 temperature | 190 - 210 | °C | - |
| Die temperature | 190 - 210 | °C | - |
| Melt temperature | 190 - 210 | °C | - |
| Cavity temperature | 80 - 120 | °C | - |
| Hot runner temperature | 190 - 210 | °C | - |
| Pressure | Value | Unit | Test Standard |
| Back pressure max. | 40 | bar | - |
| Speed | Value | Unit | Test Standard |
| Injection speed | slow | - | - |