

PA12

TECHNICAL DATA SHEET

FILSHAPER PA12

Engineer filament in VSHAPER offer. It is sold in natural color. The filament is characterized by high chemical resistance eg. oils, gasoline, alcohols and acetone. It has high wear resistance. Material can be used in range of temperature from -30 to 130 celsius degrees. PA12 parts are mainly used in automotive and medical area eg. custom tool handles, robot grips, handles, implants

DELIVERY OF FILSHAPER PA12

PA12 filament has the nominal diameter of 1,75mm and is fit for FDM/FFF printing. It's supplied in 1kg spool. The spools are packed in vacuumed plastic bags to prevent hygroscopicity.

STORAGE

Store the filament in airtight packaging in dry place. The filament is usable up to 6 months after opening.

DRYING RECOMMENDATIONS

It is recommended to dry the filament before every usage to avoid stringing, bubbling or other defects: 4h in 80°C

| Mechanical properties | Value | Unit | Test Standard | |
|-------------------------------------|-------|-------------------|---------------|--|
| Tensile Modulus | - | MPa | - | |
| Tensile Strenght | 45 | MPa | ISO 527 | |
| Yield stress | - | MPa | - | |
| Yield strain | - | % | - | |
| Stress at break | - | MPa | - | |
| Nominal strain at break | - | % | - | |
| Flexural modulus | - | MPa | - | |
| Flexural strength | - | MPa | - | |
| Charpy impact strength, +23°C | - | kJ/m ² | - | |
| Charpy impact strength, -30°C | - | kJ/m ² | - | |
| Izod notched impact strength, +23°C | 7 | kJ/m ² | ISO 179 | |
| Izod notched impact strength, -40°C | 7 | kJ/m ² | ISO 179 | |
| Hardness (D-Scale) | - | - | - | |
| | V 1 | | T 101 1-1 | |
| Thermal properties | Value | Unit | Test Standard | |
| Melting temperature | - | °C | - | |



| Glass transition temperature | - | °C | - |
|---|-----|----|--------|
| Temp. of deflection under load A, 1 .80 MPa (HDT) | 50 | °C | ISO 75 |
| Temp. of deflection under load B, 0 .45 MPa (HDT) | 110 | °C | ISO 75 |

| Physical properties | Value | Unit | Test Standard |
|---------------------|-------|-------------------|---------------|
| Density | 1,02 | g/cm ³ | ISO 1183 |
| Filament Diameter | 1.75 | mm | - |
| Linear Shrinkage | - | % | - |

| Burning behavior | Value | Unit | Test Standard |
|--------------------|-------|-------|---------------|
| Flammability class | НВ | class | UL94 |

| Rheological properties | Value | Unit | Test Standard |
|--------------------------|-------|----------|---------------|
| Melt mass-flow rate, MFR | - | g/10 min | - |
| Temperature | - | °C | - |
| Load | - | kg | - |

| Characteristics | |
|--------------------------------|---|
| Key Feature, Industrial Sector | Automotive, medical, tool |
| Key Feature, Processing | 3D printing |
| Key Feature, Resistance to | Chemicals, heat, fatigue |
| Key Feature, Electrical | Insulator |
| Example applications | Holders, robot grips, implants, custom tool handles |
| Processing | FFF/FDM |
| Special Characteristics | - |
| Color | Natural |
| Delivery form | Monofilament |

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| B. C. | VSHAPER 27 | 270 | | VSHAPER 500 | | |
|---|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Printing settings STD | STD | PRO | MED | STD | PRO | MED |
| Print temperature | - | 250°C | 250°C | 280°C | 280°C | 280°C |
| Bed temperature | - | 90°C | 90°C | 100°C | 100°C | 100°C |
| Chamber temperature | - | 70°C | 70°C | 70°C | 70°C | 70°C |
| Adhesive plate material | - | V-SURFACE LT | V-SURFACE LT | V-SURFACE LT | V-SURFACE LT | V-SURFACE LT |
| Adhesive glue | - | Magigoo | Magigoo | Magigoo | Magigoo | Magigoo |
| Model shrinkage | - | ~1,2% | ~1,2% | ~1,2% | ~1,2% | ~1,2% |

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