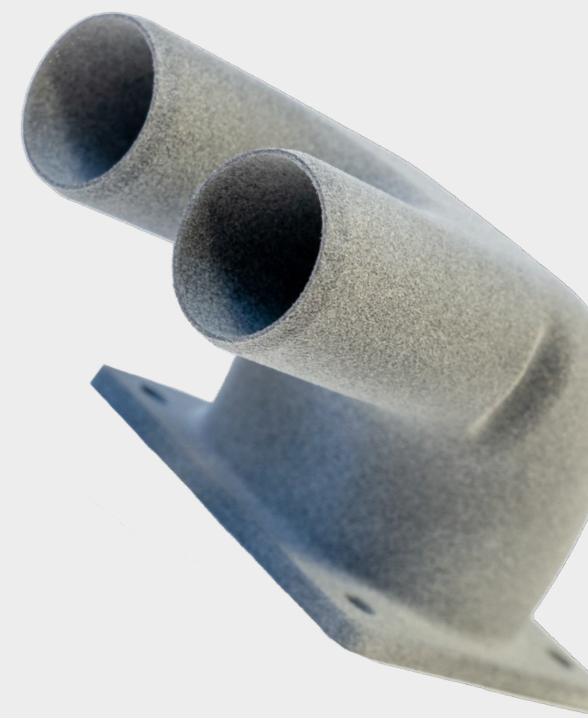




Comparison of Makerly materials: HP PA 12, TPU, PA 12 S, and HP PA 12 W



Parameter	HP PA 12	TPU	PA 12 S	HP PA 12 W
Powder melting point (DSC)	~187 °C	~192 °C	~185 °C - 190 °C	~188 °C
Particle size	60 µm	100 µm	50 - 60 µm	57 µm
Density	1,01 g/cm ³	1,16 g/cm ³	1,01 g/cm ³	~0,43 g/cm ³
Stiffness	✓	✓	✓	✓
Impact strength	✓	✓✓	✓	✓
Elongation	✓	✓✓	✗	✓
Geometry reproduction	✓✓	✓	✓✓	✓✓
Detail level	✓✓	✓	✓✓	✓✓
Surface smoothness	✓	✓	✓✓	✓
Flat surface quality	✓	✓	✓	✓
Heat resistance	✓	✓	✓	✓
Chemical resistance	✓	✓	✓	✓



(Table continued)

Parameter	HP PA 12	TPU	PA 12 S	HP PA 12 W
Low moisture absorption	✗	✓	✗	✗
Low weight	✓	✓	✓	✓
Surface roughness	✓	✓	✓✓	✓

Mechanical characteristics	HP PA 12	TPU	PA 12 S	HP PA 12 W
Hardness	80 (Shore D)	88 (Shore A)	D 75 - 80	D 75 - 80
Dielectric permittivity	3 - 4	3 - 7	3,5 - 4,0	3,5 - 4,0
Dielectric strength	20 - 30 kV/mm	15 - 30 kV/mm	~15 kV/mm	~15 kV/mm
Tensile strength, XY	65 MPa	10,5 MPa	65 MPa	70 MPa
Tensile strength, Z	70 MPa	6,5 MPa	65 MPa	70 MPa
Elongation at break, XY	20%	185%	12%	17%
Elongation at break, Z	15%	55%	5%	9%



Resistance to various environments and radiations

Type of environment or radiation	HP PA 12	TPU	PA 12 S	HP PA 12 W
Alkaline environment	✓✓	✓✓	✓	✓
Gasoline	✓✓	✓✓	✓	✓
Acetone	✓✓	✓✓	✓	✓
Methyl alcohol	✓✓	✓✓	✓	✓
Acetic acid	✓✓	✓✓	✓	✓
Carbon dioxide	✓✓	✓✓	✓✓	✓✓
Motor oil	✓✓	✓✓	✓✓	✓✓
UV radiation	✓✓	✓✓	✓	✓
IR radiation	✓✓	✓✓	✓✓	✓✓
Water	✓	✓	✓	✓
Bleach	✓	✓	✓	✓

Resistance to various environments and radiations

(Table continued)

Type of environment or radiation	HP PA 12	TPU	PA 12 S	HP PA 12 W
Sulfuric acid	✓	✓	✗	✗
Hydrochloric acid, 20% solution	✓	✓	✗	✗
Phosphoric acid, 10% solution	✓	✓	✗	✗

Note: Actual performance may vary depending on printing conditions, post-processing, and usage. For more detailed information, refer to HP's official technical documentation.

✓✓ Excellent

✓ Good

✓ Satisfactory

✗ Not recommended