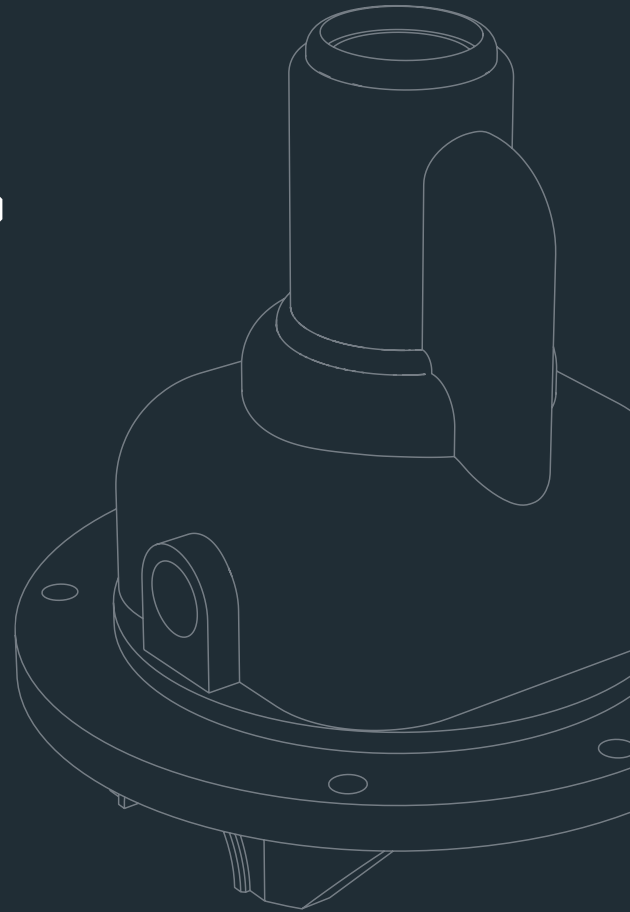
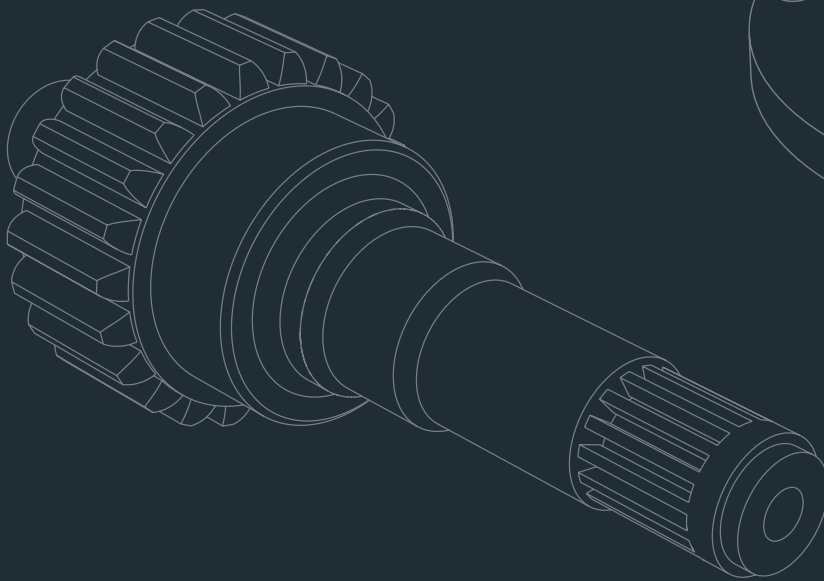


i500 Materials Library



Professional materials
for additive manufacturing.



i500 Materials Library

BASIC materials

PLA

TPU

PET-G

TECHNICAL materials

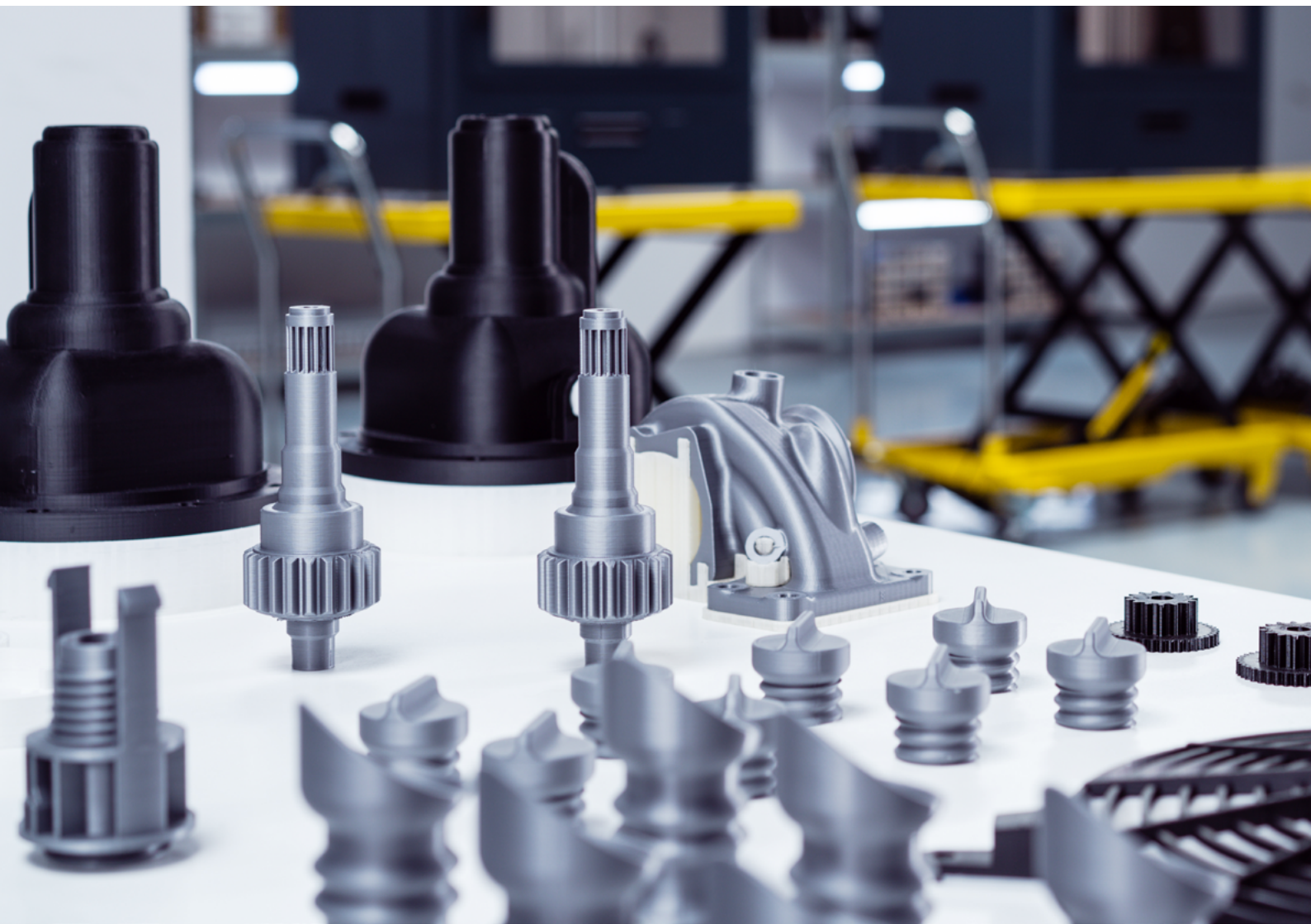
PA

ABS +

ASA

SUPPORT materials

BVOH





BASIC materials

PLA

Polylactic Acid

PROPERTIES

- Low shrinkage ratio
- Resistant to cracking
- Biodegradable / compostable
- Easy to print
- Easy to post-process
- Low printing temperature
- Emits low-toxic fumes

	Typical value	Test method
Glass transition temperature	57°C	ISO 11357
Young's modulus	3027 MPa	ISO 527
Elongation at break	2,3%	ISO 527
Tensile strength	66 MPa	ISO 527
Impact strength	3,4 kJ/m2	ISO 179
Melting temperature	115±35°C	ISO 11357

Size:

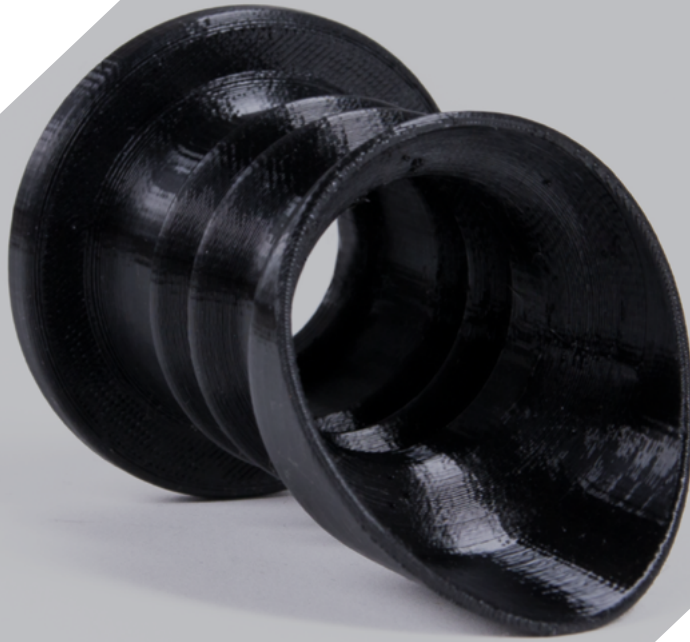
- 1000g,
- 2300g
[only black]

Filament diameter:

- 1,75 mm

Colors:

- black
- white
- silver
- gold



BASIC materials

TPU

Thermoplastic polyurethane

PROPERTIES

- Not prone to cracking
- Scratch resistant
- High elasticity
- High resistance to stretching
- Does not react with oils and greases
- Waterproof / hydrophobic

	Typical value	Test method
Glass transition temperature	-16°C	ISO 11357
Young's modulus	150MPa	ISO 527
Elongation at break	450%	ISO 527
Tensile strength	50 MPa	ISO 527
Impact strength	it does not break	ISO 179
Melting temperature	225°C	ISO 294

Size:

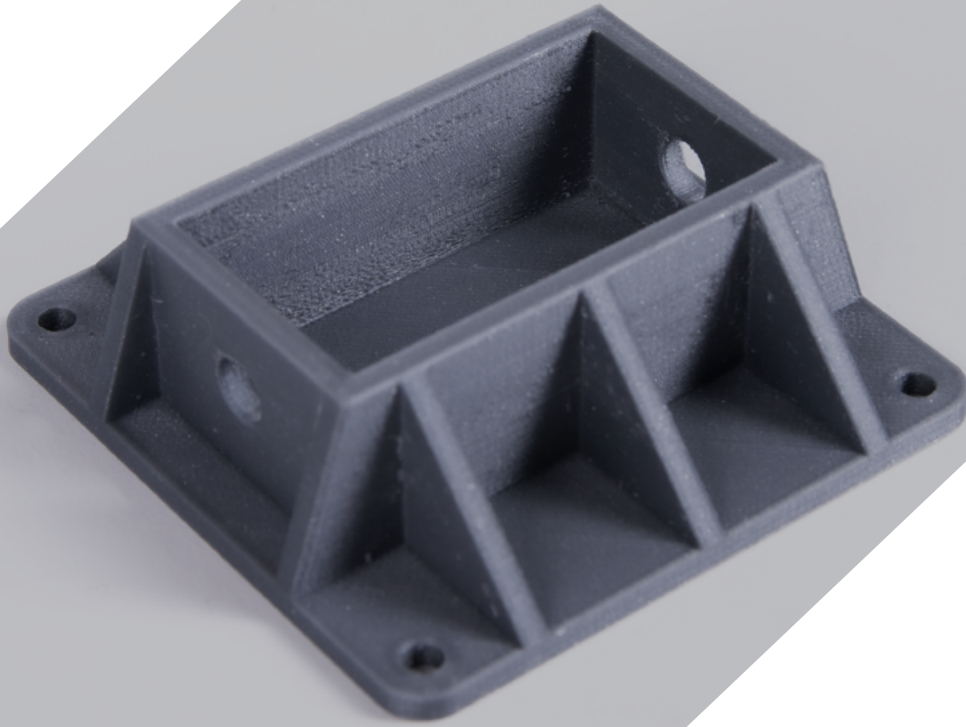
- 500g

Colors:

- black

Filament diameter:

- 1,75 mm



BASIC materials

PET-G

Polyethylene Terephthalate Glycol

PROPERTIES

- High tensile strength
- Low shrinkage ratio
- Resistant to cracking
- Neutral smell
- Easy to print
- High transparency
- Waterproof / hydrophobic
- Food contact acceptable

	Typical value	Test method
Young's modulus	2020MPa	ISO 527
Elongation at break	23%	ISO 527
Tensile strength	50 MPa	ISO 527
Impact strength	8,1 kJ/m2	ISO 179
Transparency	90%	ASTM D1003

Size:

- 1000g

Filament diameter:

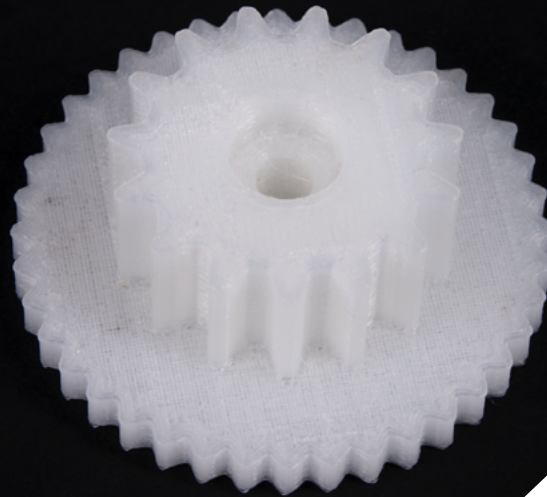
- 1,75 mm

Colors:

- black
- silver
- red

It is recommended to use PET-G only in the single material print mode.

[back to material list >>](#)



TECHNICAL materials

PA
Polyamide

PROPERTIES

- Chemical resistant
- Scratch resistant
- Fatigue resistant
- Low friction ratio
- Thermal resistant (HDT 0.45 MPa 135°C)
- Highly hygroscopic

	Typical value	Test method
Glass transition temperature	49°C	ISO 11357
Young's modulus	2419MPa/2122MPa	ISO 527
Elongation at break	9,6%/ 0,8%	ISO 527
Tensile strength	61,5MPa/16,4MPa	ISO 527
Impact strength	5,6 kJ/m ² / 1,2 kJ/m ²	ISO 179

Size:

- 750g

Colors:

- natural

Filament diameter:

- 1,75 mm

Flat/Upright



TECHNICAL materials

ABS +

Acrylonitrile Butadiene Styrene

PROPERTIES

- Good dimensional stability
- High impact strength
- Thermal resistance (HDT 0.45 MPa 91°C)
- Better layer adhesion
- Waterproof

	Typical value	Test method
Glass transition temperature	114°C	ISO 11357
Young's modulus	1379 / 1106MPa	ISO 527
Elongation at break	10,9% / 21,%	ISO 527
Tensile strength	29,5 MPa / 17,9 MPa	ISO 527
Impact strength	32 kJ/m ² / 2,5 kJ/m ²	ISO 179

Size:

- 750g

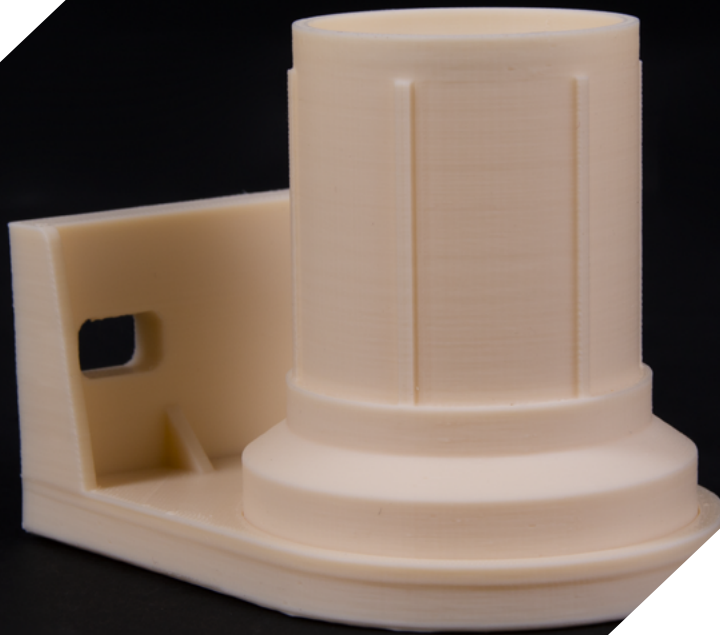
Filament diameter:

- 1,75 mm

Colors:

- black
- natural
- gray

Flat/Upright



TECHNICAL materials

ASA

Acrylonitrile Styrene Acrylate

PROPERTIES

- Thermal resistance (HDT 0.45 MPa 101°C)
- Chemical resistance
- UV radiation resistance
- Waterproof
- Easy post-processing

	Typical value	Test method
Glass transition temperature	104°C	ISO 11357
Young's modulus	1958MPa / 1608MPa	ISO 527
Elongation at break	7,4% / 1,8%	ISO 527
Tensile strength	36,3MPa / 21,3MPa	ISO 527
Impact strength	8,9 kJ/m ² / 2,7 kJ/m ²	ISO 179

Size:

- 750g

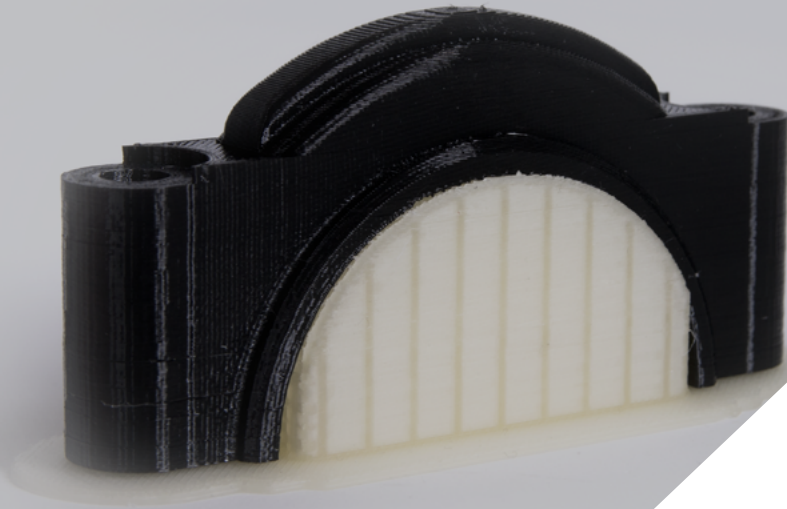
Filament diameter:

- 1,75 mm

Colors:

- black
- natural

Flat/Upright



SUPPORT materials

BVOH

Butenediol vinyl alcohol copolymer

PROPERTIES

■ Water-soluble

■ Highly hygroscopic

Compatibility

PLA	PET-G	TPU	PA	ABS +	ASA
+	-	-	-	-	-

Size:

■ 350g

Colors:

■ natural

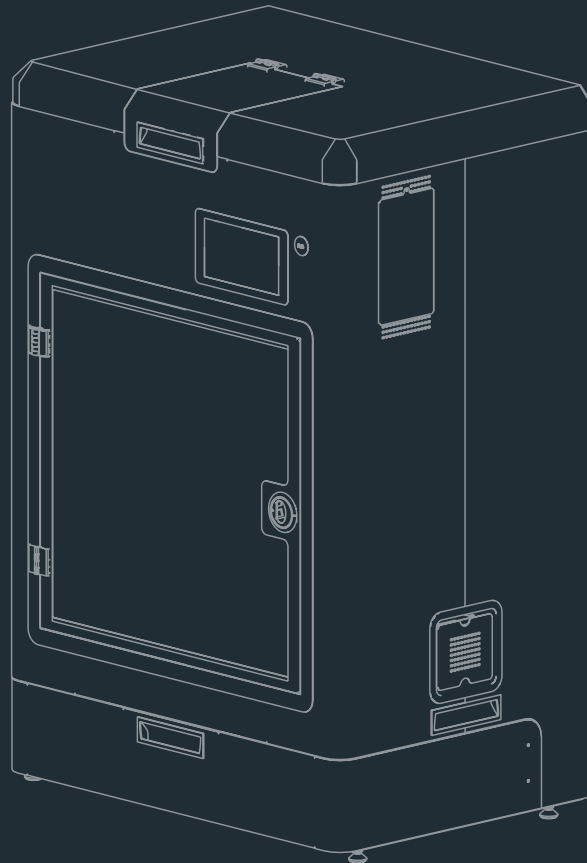
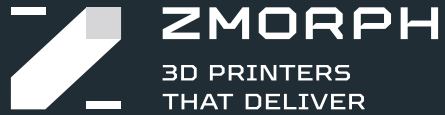
Filament diameter:

■ 1,75 mm



PRINT RECOMMENDATIONS:

	Nozzle Temperature	Bed Temperature	Fan Speed
PLA	180-210°C	0-60°C	100%
PET-G	215-250°C	60-70°C	50%
TPU	220-240°C	50-60°C	80%
PA	220-250°C	90-120°C	0%
ABS +	240-260°C	100-120°C	25%
ASA	260-280°C	100-120°C	20%
BVOH	190-210°C	60-100°C	80%



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High-Performance 3D Printer

Keep costs low, and iterate faster with 3D printing materials that meet the highest expectations. Zmorph's materials can handle extensive wear and tear, bending, and impacts without breaking.

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