

Acrylnitrilbutadienstyrol glass fiber 10% (ABS GF10)

General

Acrylonitrile-butadiene-styrene is a copolymer in which, among other things, butadiene is grafted onto the molecular chains. This makes the ABS much more impact-resistant than before the modification. To increase the rigidity, an additional 10% glass fibers are added. ABS GF10 has less shrinkage than unreinforced ABS and is therefore much easier to print because the material warps significantly less and therefore adheres better to the printing plate. Further advantages of glass fiber reinforcement are higher hardness, heat resistance and significantly higher tensile strength.

The disadvantage of glass fiber reinforcement is the lower elongation at break. In addition, the glass fibers cause increased abrasion in the nozzle. We therefore recommend using a hardened steel nozzle to print large objects. When ABS filament is melted, an odor develops. Make sure your printer is in a well-ventilated room and avoid breathing in these fumes. Make sure that no people who are sensitive to chemicals, children or pets stay in this room for a long time.

advantageous

- Very high rigidity
- Heat resistant up to 100°C
- High hardness
- Low distortion
- Low shrinkage

disadvantageous

- Increased abrasion in the printing nozzle
- Hardened steel nozzle recommended
- Evaporates when heated
- Needs a warm room, or closed pressure room

Processing data

Printing temperature

240-260 °C

Heated bed temperature

80-110 °C

Drying temperature

80°C

Drying time

2-4h

Technical specifications

Shrinkage (ISO 294-4, 2577)	0.2-0.4	%
MFR (ISO 1133)	24	g/10min
Yield stress (ISO 527-1,2)	81	MPa
Elongation at yield (ASTM D638)	3	%
Elongation at break (ISO 527-1,2)	3	%
Tensile modulus (ISO 178)	4200	MPa
Heat deflection temperature 0.45 MPa (ASTM D648)	100	°C
Vicat softening temperature A (ASTM D1525)	95	°C
Thermal conductivity 23°C	-	W/(K*m)
Flammability (UL 94)	HB	
Density (ISO 1183)	1.11	g/cm ³