

TECHNICAL DATA SHEET

Odorless ABS-GF

10% glass fiber reinforced low odor ABS

BRIEF INTRODUCTION

Odorless ABS-GF combines standard ABS material box with short cut glass fibre. The result is the retention of low odor characteristics while having better resistance to warping box material rigidity. Compared with the standard ABS, the bending strength is increased by 12% and the bending modulus is increased by 23%.

Since glass fiber will accelerate the wear of the nozzle from consumables, it is recommended that you use steel or a nozzle with higher hardness.

CHARACTERISTIC

Matte surface | High flow, Good Formability, low odor | The characteristics of high rigidity and low density are also suitable for some applications such as model aircraft

IDENTIFICATION OF THE MATERIAL

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|---------------|----------------------|
| Trade name | <u>ABS-GF</u> |
| Chemical name | Glass fiber ABS |
| Application | 3D PRINTING |

GUIDELINE FOR PRINTING SETTINGS

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|-----------------------|------------------------------|
| Nozzle temperature | 250-270°C |
| Bed temperature | 100~110°C |
| Bed material | PEI or Coating with PVP glue |
| Active cooling fan | OFF |
| Recommend nozzle size | 0.4-1.0mm |
| Raft distance | 0.18-0.22mm |
| Print speed | 30-90mm/s |
| Retraction distance | 2-5 mm |
| Retraction speed | 1800-3600 mm/min |

Settings are based on a 0.4mm nozzle.Nozzle temp.250 °C ,Bed temp.:110 °C , Printing speed:50mm/s,filling rate:100%,filling angle:+/-45°

| MATERIAL PROPERTIES | Test Method | Typical value |
|---------------------|---------------------|-----------------------|
| Density | ISO 1183 | 1.1 g/cm ³ |
| Water absorption | ISO 62: Method 1 | / % |
| Melting Temperature | ISO 11357 | 101°C |

| | | |
|-------------------------------------|------------------|-----------------------------|
| Melt index | 250 °C , 2.16kg | 4 g/10min |
| Determination of temperature | ISO 75: Method A | 92 °C (1.80MPa) |
| | ISO 75: Method B | 96 °C (0.45MPa) |
| Tensile strength(X-Y) | | 39.2±0.93 MPa |
| Young's modulus(X-Y) | ISO 527 | 2826±56 MPa |
| Elongation at break (X-Y) | | 2.43±0.20 % |
| Bending strength (X-Y) | | 66.21±0.42 MPa |
| Bending modulus (X-Y) | ISO 178 | 2681±25 MPa |
| Charpy impact strength (X-Y) | ISO 179 | 8.17±0.66 KJ/m ² |
| Tensile strength (Z) | | 19.2±0.9 MPa |
| Young's modulus (Z) | ISO 527 | 2331±130 MPa |
| Elongation at break (Z) | | 1.28±0.32 % |

Other suggestions:

1. Compared with PLA,PETG and other materials, ABS materials need a higher ambient temperature during the printing process to help release the residual stress in the forming process of parts. Please keep the printer sealed during the printing process to effectively avoid warping and cracking of printed parts. If the device has the heating chamber function, you are advised to set the heating chamber temperature between 60 ° C and 80 ° C.
2. For ABS-GF filament after long-term unpacking, if the printing quality is found to decrease during the printing process, please dry the filament at 70-80°C for 4h.
3. Although ABS-GF has less odor than its counterparts, it is still recommended to place the printer in a ventilated environment when printing.
4. The glass fiber inside the consumables will cause wear to the nozzle, so it is recommended to use the tempered nozzle and nozzle with higher hardness.

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