MINGDA

Technical Data Sheet

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WELCOME

Company Introduction

Aboutus

Shenzhen MINGDA Technology Co., Ltd. was founded in 2012, which is a professional 3D printer research and development manufacturer in China and a national high-tech enterprise.

The Company's business focuses on the development, production and sales of high perfor- mance extruded 3D printing materials. With formulation development as its core competence, the Company is committed to solving the Fused Deposition Modeling process from the material side, reducing the hardware requirements of materials for printing equipment, and achieving the goal of printing high-performance composite materials with low-cost printers.

The Company is committed to providing customers with industry-leading 3D printing materials and total solutions from printing process to printing equipment, and has the ability to quickly customize materials to meet customer application requirements.

Superiority

• With a deep understanding of the FDM process, all product lines and materials are optimized for the FDM process.
• Relying on the strong strength in material modification development, we can provide customized material development services according to customer application requirements.
• The unique product line of support materials fits perfectly with high-performance printing materials to form a complete industrial-grade printing solution, thus closing the loop of the printing process.
• High-performance online production monitoring equipment and mature production processes can ensure the stable quality of FDM materials.

Contactus

For any inquiries or technical support, please contact:support@3dmingda.com

S-Multi

Fast and easy stripping of support material.

ProductDescription

MINGDA S-Multi fast and easy to peel support materials, by adjusting the support surface of the main material bonding strength and S-Multi self bonding strength to achieve fast and easy peeling function. S-Multi quickly and easily removes support materials without using water or solvent in the process of removing support, which does not produce water pollution and is safe and environmental protection. MINGDA S-Multi can be applied to dual nozzle FDM printers or two-in, one-out FDM printers.

MINGDA S-Multi fast and easy to peel support materials, suitable for the following MINGDA industrial material products:

PET-CF, PET-GF, PA12-CF, ABS-HF, ASA-HF, ABS-GF25, ABS-CF25, TPU95A-HF, TPU75D

ProductDescription

Colors	▪ Solid color
Diameter	1.75mm/2.85mm
Net weight	500g/1kg/2.5kg

Product highlights

- **Smart fiber reinforcement technology**

MINGDA S-Multi has moderate bonding strength with the main material through formula and process adjustment, which not only ensures that the main material can be formed on the supporting surface, but also can be easily separated from the supporting surface of the main material during support removal.

- **Rapid removal technology**

MINGDA S-Multi greatly reduces its interlayer bonding strength through formula and process adjustment, and can be easily removed during removal.

- **Safety and environmental protection**

MINGDA S-Multi use process without the use of water or solvent, do not produce water pollution, safety and environmental protection.

Material Properties

Property	Testing method	Typical value
Density	ISO 1183	1.16 g/cm³
Water absorption	ISO 62: Method 1	0.4 %
Melting Temperature	ISO 11357	168 °C
Melt index	260 °C, 2.16 kg	5.1

Recommended printing conditions

Nozzle temperature	270-290 °C
Recommended nozzle diameter	0.4-1.0 mm
Recommended build surface treatment	PEI Film or Coating with PVP glue
Build plate temperature	60-80 °C
Raft separation distance	0 mm
Recommended support density	15 %-20 %
Recommended thickness of dense layer	3-5
Support Z direction up/down surface distance	0
Support X/Y direction distance	0.3-0.6 mm
Number of cycles of support frame	0-1
Cooling fan speed	OFF
Print speed	30-120 mm/s
Retraction distance	1-3 mm
Retraction speed	1800-3600 mm/min
Recommended support material	PET-GF PET-CF PA12-CF

Other suggestions

1. MINGDA S-Multi is very easy to absorb the moisture in the environment. After moisture absorption, the printing will appear wire drawing, bubble extrusion, rough printing surface and other phenomena, reducing the printing quality. It is recommended that you open the MINGDA S-Multi vacuum aluminum foil bag and immediately put the wire into the drying box (humidity controlled below 15%) for printing. Please put unused wires back into the original aluminum foil bag for sealing and storage.

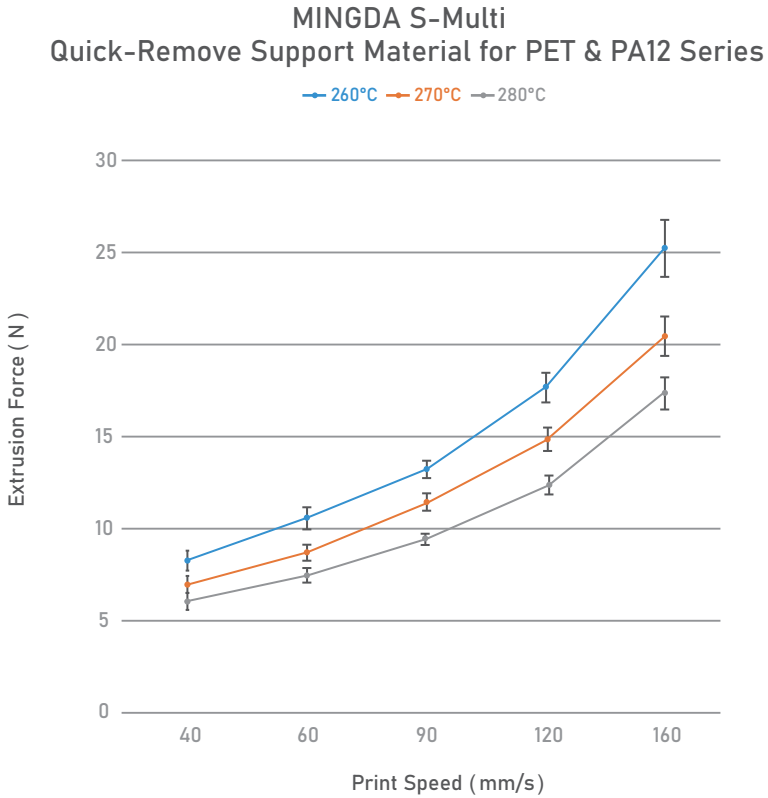
2. The printing wire drawing increases, bubbles are extruded, and the printing surface quality is rough when the material is damp. Please dry the wire in an 80-100 oven for 4-6 hours to restore the printing quality of MINGDA S-Multi.

3. It is recommended to select nozzles made of hardened steel or above, which can effectively improve the printing quality. It is recommended that the thickness of the heating block should not be less than 12mm.

4. In the dual nozzle printing mode, the materials in the standby nozzle will age due to long-time heating. Before switching the printing nozzle, it is necessary to extrude the aged materials out of the nozzle. Therefore, the function of the separation wall or the wipe tower in the slicing software must be used

5. After printing, annealing treatment can be carried out on the printed copy, and then the MINGDA S-Multi step can be removed. MINGDA S-Multi can support the body material during annealing, reduce the size deformation of the body material, and improve the mechanical properties of the body material. Annealing conditions: set according to the requirements of the main material.

Extrusion pressure and printing speed test



Test parameters: 12mm thick copper heating block, BMG extruder, hardened steel nozzle, nozzle size 0.4mm, layer height 0.2mm.

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