

MINGDA FDM Printing Material

Technical Data Sheet

MINGDA ASA-Aero

发泡型 ASA 3D 打印材料

Low Weight ASA 3D Printing Material

Product description

MINGDA ASA-Aero

It is dedicated to research and development for the fields of modeling, ship models, and drones, and provides a light 3D printing filaments. ASA-Aero can adjust the foaming rate of the material by controlling the foaming rate of the material during the printing process. The filament density of the nozzle can be adjusted within a certain range to reduce the weight of the model. In the best case, it can be reduced to about 35% of the ordinary ASA printing model; the matte texture of the printed surface can also reduce the layer pattern.

Product Highlights

Online foam technology

Mingda Asa-Aero is an ASA filaments for brewing during the printing process. Before printing, the foaming agent is in the state of not stimulating it. During the printing process, the print temperature can be freely controlled by the foam subsidiator. The maximum foaming rate can reach 190%. At the same time, ASA-Aero retains the original high heat resistance of ASA material and can be used in an environment of 70-80°C.

Product Details

Available

Color: 本色/Natural

Diameter: 1.75mm

net weight: 1 KG

物性表 (v1.2)

Material Properties

测试项目 Test Item	测试方法 Test Method	典型值 Typical Value
密度 Density	ISO 845	1.0/cm ³
熔融指数 Melt index	ISO 1133 250°C, 2.16kg	1.5g/10min
热变形温度 Determination of temperature	ISO 75: Method A ISO 75: Method B	71°C (1.8MPa) 80°C (0.45MPa)
断裂拉伸强度 (X-Y) Tensile strength at Break (X-Y)	ISO 527	8.05±0.25MPa
断裂伸长率 (X-Y) Elongation at break (X-Y)		8.34±1.05%

杨氏模量 (X-Y) Young's Modulus		583.02±24.97MPa
断裂拉伸强度 (Z) Tensile strength at Break (Z)	ISO 527	5.82±0.29MPa
断裂伸长率 (Z) Elongation at break (Z)		4.42±0.68%
杨氏模量 (X-Y) Young's Modulus		424.02±28.68MPa
弯曲强度 (X-Y) Bending strength	ISO 178	14.03±2.46MPa
弯曲模量 (X-Y) Bending Modulus		544.55±76.46MPa
缺口冲击强度 (X-Y) Charpy impact strength	ISO 179	2.78±0.24 KJ/m ²

试样打印参数：流量 50% 喷嘴大小 0.4mm，喷嘴温度 250℃，底板加热 100℃，打印速度 45mm/s，填充率 100%，填充角度±45°

Specimens printed under the following conditions: Flow rate 50%, Nozzle size 0.4mm, Nozzle temp 250℃, Bed temp 100℃, Print speed 45mm/s, Infill 100%, Infill angle ±45°

建议打印参数

Recommended printing conditions

喷头温度 Nozzle temperature	240-280℃
建议喷嘴大小 Recommended nozzle diameter	≥0.4mm
建议底板材质 Recommended build surface	玻璃、PEI 膜或涂抹 PVP 固体胶 PEI Film or Coating with PVP glue
底板温度 Build plate temperature	80-110℃
Raft 间距 Raft separation distance	0.18-0.2mm
冷却风扇 Cooling fan speed	0%-20%
打印速度 Print speed	30-90 mm/s

其他建议：

Additional Suggestions:

- As ASA-Aero uses the "online foaming" technology, consumables will quickly swell after heating inside the nozzle, causing unavoidable drawing phenomenon. The pumping settings in the slice software cannot play a significant role. It is recommended to close the recovery settings.
- Because ASA -type materials have high glass transformation temperature, a higher environmental temperature is required during printing to reduce the residual stress of the printing. Under the condition of normal insulation, when printing a single -layer thin -wall model, it is recommended to print a diameter of 0.6mm or above to ensure the strength and reduction of contraction.
- When printing ASA-Aero, the printer is placed in the ventilation environment when closed to dissipate the smell.