

HT100 Heat-resistant Resin Instruction

1. The Product Description

HT100 is a heat-resistant resin with a heat distortion temperature of 98°C. The prints have extremely high hardness, bending strength and tensile strength. It is resistant to long-term boiling and chemical resistance. It is used for pressing silicone rubber molds or making injection molds.

2. Material Properties Data

	METHOD	DATA
Viscosity (26°C)	ASTM:D4212-10	560mpa.s
Shore Hardness	ASTM:D2240-05	90D
Flexural Strength	ASTM: D790-10	108MPa
Flexural Modulus	ASTM: D790-10	2880MPa
Tensile Strength	ASTM:D638-14	78MPa
Elongation at Break	ASTM: D638-14	2.20%
Notched IZOD	ASTM:D256-10	8J/m
HDT(0.455Mpa)	ASTM:D648-18	98°C

3. Printing

Printing Settings: Use the standard resin settings of the printer brand you successfully printed as the "Standard Settings" (25-30°C), otherwise, use the default standard resin settings of the printer (or slicer) as the "Standard Settings". Then follow the following method to set the settings of RESIONE resin according to the "Standard Settings".

	Standard Settings	HT100 Settings
Layer Height(mm)	50	50
Bottom Exposure Time(s)	A	1.25*A
Exposure Time(s)	B	1.4*B
Light-off Delay (s)	D	D+1
Bottom Lift Distance(mm)	E	E+1
Lifting Distance(mm)	F	F+1
Bottom Lift Speed (mm/min)	G	G
Lifting Speed (mm/min)	H	H

Retract Speed (mm/min)	I	I
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Note:

a. When the room temperature during printing is **18°C-24°C**, change the settings as follows:

Bottom exposure time: (HT100 settings) +15%

Normal exposure time: (HT100 settings) +15%

Light-off Delay time: (HT100 settings) +1s

It is recommended to heat the resin if the printing is still not successful.(The heating temperature is 60-80°C, heating time is 10mins). And it is not recommended for printing at room temperature lower than 18°C

b. The lifting of some printers can be divided into two stages. All the above settings for lifting only for to the first stage. The lifting speed of the first stage is generally very slow, no need to change

*The calculation of the above printing parameters is based on the experimental results of the RESIONE laboratory and is for reference only

4. Cleaning and Post-curing

Cleaning: You can use ultrasonic or 3D printing special cleaning machine with the ethanol(concentration $\geq 95\%$), or IPA to clean for less than 1min. Please use compressed air to dry the prints after cleaning it.

Post-curing: If you use a post-curing box with a power of 40W, our recommended post-curing time is about 60mins (Adjust the post-curing time according to the power of the post-curing box, the greater the power, the shorter the time).

If there is a higher temperature resistance requirement, you can put the prints in boiling water for 10 minutes to make it solidify more fully.



5. Application Guide

a. **Silicone Rubber Molds**(As shown below)

艺辉牌双控制数显压机压制硅胶模 ①		② 割胶、开胶模	
			
填充艺辉牌硅胶	填充艺辉牌硅胶	将压好的胶模泡水降温	割胶模
			
硫化硅胶	取出硫化好的胶模	割胶模	取出母模
③ 制做蜡模		④ 铸造	
			
自动真空注蜡机注蜡	取出蜡模（抽心）	种树（焊蜡树）	种树（焊蜡树）
			
得到完美蜡件	完美蜡件	完美铸件	完美铸件

b. Used as an injection mold for the following thermoplastics

Injection material	Mold temperature (°C)
PP	10~60
PS	10-80
ABS	50~80
PMMA	40-90
PC	80-120
PA66	40-120

c. Other Application

- Test in outdoor conditions or high temperature gas/liquid environment
- Carbon fiber mold
- Metallized surface treatment such as electroplating
- Automotive interior
- Heat-resistant parts of electrical or power equipment
- Fixture

For more questions, please contact support@godsaid3d.com