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LCD TDS ISO

Product Name: Dental Implant Resin

Product features

The printed resin models offer high detail reproduction and high precision. They also feature excellent dimensional stability with low shrinkage. The printed parts have excellent scratch resistance, good drop resistance, and can be drilled. In addition, they provide good strength and toughness.

Main applications:

B-end: Dental implant models
C-end: Ornaments, toys, jewelry, figurines

Points for attention:

Properties	Test Method	Test Condition	S.I. Units	Typical Values
Mechanical				
(Z) Tensile Strength	ISO 527/2	50 mm/min	MPa	25
(Z) Elongation at break	ISO 527/2	50 mm/min	%	30
(Z) Flexural Strength	ISO 178	10mm/min	MPa	35
(Z) Flexural Modulus	ISO 178	10mm/min	MPa	956
(Z) Izod Impact Strength of Notched Specimen	ISO 180	23℃	J/m	130
(Z) Izod Impact Strength of Unnotched Specimen	ISO 180	23℃	J/m	/
Shore Hardness	ISO 868	23℃	HD	75
Thermal				
(Z) Heat Distortion (HDT)	ISO 75	0.45 MPa	℃	50
Glass Transition (T _g)	ISO 11357-2	10 ℃/min	℃	45
Melting Temperature	ISO 11357-1	10 ℃/min	℃	200
@5%Decomposition Temp.	ISO 11358	20 ℃/min	℃	300
Mold Shrinkage	ISO 294	23℃	%	8
Coefficient of Thermal Exp.	ISO 11359-2	/	μm (m ·℃)	101 × 10 ⁻⁶
Basic physical properties of resin				
Liquid density (g/cm ³)	ISO 1675	23℃	g/cm ³	1.1000±0.03
Solid density (g/cm ³)	ISO 1183	23℃	g/cm ³	1.2000±0.03
Resin viscosity (mPa.s)	ISO 2555	25℃	mPa.s	700-1500
Others				
Curing wavelength (nm)	365—405			
Storage conditions	Store sealed and protected from light at 15—35 ℃ with relative humidity below 60%(RH).			

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Validity period	2 Years
Cleaning method	Use $\geq 95\%$ clean ethanol or isopropyl alcohol for ultrasonic cleaning for 5–6 minutes. Using a brush during cleaning will provide better results.
Post-curing method	After cleaning, perform post-curing in a curing chamber for 3–5 minutes.

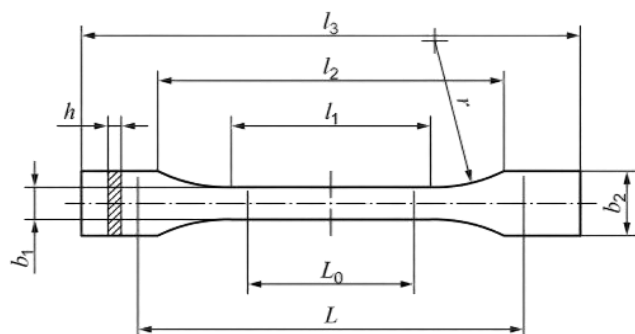
[1] Typical values represent average laboratory data and are provided for reference only. They are not to be considered product specifications. Actual results may vary depending on the 3D printer used.

Recommended Printing Parameters

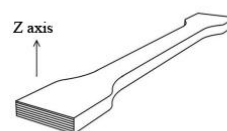
Item	Parameters
Print optimum ambient temperature (°C)	25—30°C / < 60%RH
Recommended print layer thickness (mm)	0.05mm
Number of bottom layers	5-10
Bottom exposure time (s)	10-20
Layer exposure time (s)	2-2.5
Lifting height (mm)	6-10mm
Lifting speed (mm/min)	60-120
Retract/descent speed (mm/min)	120-180
Light-off delay time (s)	0.5-1

The above values are provided for reference only. The processing parameters may be adjusted as appropriate according to different printers, models, and product requirements.

TENSILE TESTING SPECIMEN



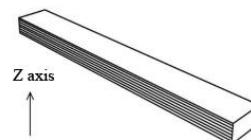
$L_0=25\text{mm}$



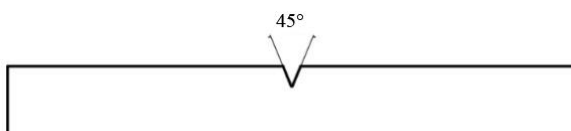
FLEXURAL TESTING SPECIMEN

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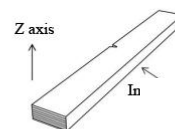
LCD TDS ISO



IMPACT TESTING SPECIMEN



Type A



Safety and Handling Precautions

A Material Safety Data Sheet (SDS) for this product is available from your local Sunlu office.

The SDS provides customers with information on material handling, safety and disposal, as well as the requirements of applicable local health and safety regulations. The following are general precautions and apply only to the resins supplied. The various additives and processing aids used in plastics moulding and other materials used in secondary processes have their own safety requirements and must be understood separately.

This product is not for consumption and must not come into contact with eyes. Keep it away from children and pregnant women. In case of accidental contact with eyes or skin, rinse thoroughly with plenty

of clean water immediately. Please seek medical attention promptly if you feel unwell.

-Operational Environment Control-

· Ensure adequate ventilation in the printing area in accordance with proper operating procedures. Under most circumstances, standard ventilation equipment is sufficient. Use local exhaust ventilation when necessary.

· Optimal printing conditions: ambient temperature 25°C -30°C , relative humidity < 60%. Low temperatures will increase viscosity, which may reduce printing success rate. It is recommended to preheat the resin when the temperature is below 20°C to improve printing results. Excessively high temperatures will exacerbate pigment sedimentation in the resin, affecting printing quality.

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· It is recommended to print in a light-protected area. Uncured resin will cure when exposed to direct sunlight.

-Usage Specifications-

- Shake the resin thoroughly before use, and wear gloves and a mask. Wait for bubbles on the resin surface to dissipate completely before starting printing. If sediment accumulates at the bottom of the resin vat, gently stir it with a plastic spatula, or pour it back into the original bottle and shake thoroughly before reuse.
- After printing, do not soak uncured printed parts in cleaning agent for an extended period, as this may affect the resin's performance. Seal the resin container promptly after use. Dispose of waste in compliance with local environmental regulations.

-Storage Requirements-

- Store the resin in a sealed container, and keep it away from dusty or damp places (these can lower print quality).

- Store in a light-shielded environment and avoid direct light exposure. Sunlight contains a large amount of ultraviolet rays, which will cure the photopolymer resin. Optimal storage conditions: It is recommended to store the resin in a light-shielded environment with an ambient temperature of 15°C -35°C and a relative humidity of < 60%.

Users are advised to investigate the final use of their product beforehand to ensure the correct use of Sunlu products. To prevent misuse or incorrect use of Sunlu products, it is advisable to contact the Sunlu R&D department or the marketing department. The material performance may vary depending on the printer model, curing method, and testing equipment. Please refer to the product's Safety Data Sheet (SDS) and certification reports (e.g., TDS) for the authoritative specifications. Should you encounter any issues, please feel free to contact us at any time.

Note: Due to variations in usage conditions and applicable laws by location and time, customers are responsible for determining whether the products and product information in this document are suitable for their use. Customers should ensure that their workspaces and handling methods comply with applicable laws and other government regulations. Sunlu assumes no responsibility or liability for the information in this document and does not provide any warranties. All implied warranties of merchantability or fitness for a particular purpose under this document are hereby expressly excluded.