WOL3D INDIA LTD.

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Technical Data Sheet 2023

10K Nano Resin

M5 Series Resin

10K Standard Plus Resin

10K Washable Resin

Plant Based Standard Resin

Plant Based ABS Like Resin

Standard Pro Resin

Hi-Speed Standard Resin

Printing Setting

Model No.	Layer height (mm)	Bottom exposure time(s)	Layer exposure time(s)	Bottom Lift Distance (mm)	Lifting Distance (mm)	Bottom Lift Speed (mm/min)	Lifting Speed (mm/min)	Retract Speed (mm/min)	Rest time after retract
10K Nano Resin	0.05	25-35	2.5--3.5 orange red resin : 3--4	6	6	60	80	150	2--3
M5 Series Resin									
10K Standard Plus Resin									
10K Washable Resin									
Plant Based Standard Resin									
Plant Based ABS Like Resin			2.5--4.5						
Standard Pro Resin			2.5--4.5						
Hi-Speed Standard Resin (Normal 3D Printer)		20-25	1--1.5						
Hi-Speed Standard Resin (Hi-Speed 3D Printer)		20-25	1.2--1.8	3	3	1300	1300	1300	0.5

Above settings are tested on ELEGOO MARS 3 (6.6'' monochrome LCD screen,light intensity 3500~4500μw/㎠), they should be adjusted according to different 3d printers and printing model structure，most settings can be keep as the printers' default firstly.

1. Bottom layer count = Bottom layer thickness/ Layer height+1，e.g. Bottom height 0.4mm, layer height 50um, the bottom layer count= 0.4mm/0.05mm+1=9 layers.

2. The exposure time should be adjusted according to printer light energy, layer thickness and model structure. If the layer height less than 0.05mm, we suggest the exposure time of each layer will be deducted about 0.5s.

3. If light power of printer is getting weak and cause failure, don't forget to add exposure time.

4. When printing with ordinary FEP/NFEP film, the recommended lifting distance as below:

Less than 7'' screen size, lifting distance: 6mm；　　7-10” screen size, lifting distance: 8-10mm

10.1” screen size, lifting distance: 11mm；　　13.3” screen size, lifting distance: 14mm

15” screen size, lifting distance: 15mm

While printing with fast printing film (ACF film), lifting distance can be decrease 30-50%.

e.g. lifting speed was 80 (mm/min) at regular film, you can adjust to 40-60(mm/min) when using fast printing film (ACF film).

Notice：shake the resin well before use.

Technical Specification

10K Nano Resin & M5 Series Resin & 10K Standard Plus Resin & 10K Washable Resin

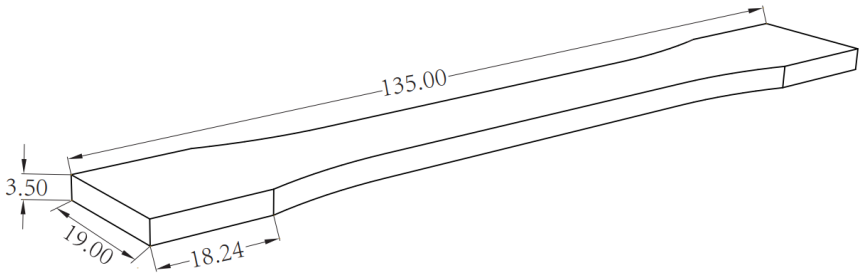
	10K Nano Resin	M5 Series Resin	10K Standard Plus Resin	10K Washable Resin	Test Standard
Tensile strength (MPa):	37.9 ±10%	45.40±10%	37.88 ±10%	31.44 ±10%	ASTM D638
Tensile modulus (MPa):	508.12 ±10%	687.73±10%	615.49 ±10%	471.03 ±10%	ASTM D638
Elongation at yield point(%)	6.21 ±10%	6.09±10%	3.09 ±10%	6.32 ±10%	ASTM D638
Flexural modulus (MPa):	1188.91 ±10%	1570.52±10%	1699.7 ±10%	1091.45 ±10%	ASTM D790
Flexural strength (MPa):	41.4 ±10%	49.80±10%	57.91 ±10%	40.82 ±10%	ASTM D790
Notched impact strength (J/m):	46 ±10%	42±10%	72 ±10%	50 ±10%	ASTM D256
Maximum pulling force (N):	1576.91 ±10%	1888.76±10%	1575.93±10%	1308.20±10%	ASTM D638
Maximum force point of deformation (mm)	6.87 ±10%	4.33±10%	3.62 ±10%	4.33 ±10%	ASTM D638
Elongation at break (%):	12.15 ±10%	7.67±10%	6.41 ±10%	7.65 ±10%	ASTM D638
Hardness (Shore D):	82-86 D	84~88D	80~88 D	80-85 D	ASTM D2240
Viscosity (MPa.S):	150-300	200~400	250-400	70-175	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05~1.25	1.05-1.25	1.05-1.25	GB/T 22235

Plant Based Standard Resin & Plant Based ABS Like Resin & Standard Pro Resin & Hi-Speed Standard Resin

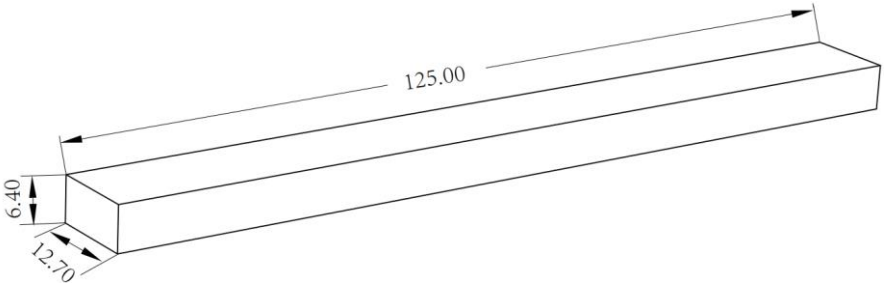
	Plant Based Standard Resin	Plant-Base ABS-like Resin	Standard Pro Resin	Hi-Speed Standard Resin	Test Standard
Tensile strength (MPa):	32.43 ±10%	27.46 ±10%	42.77±10%	42.77±10%	ASTM D638
Tensile modulus (MPa):	424.97 ±10%	328.5 ±10%	518.35±10%	518.35±10%	ASTM D638
Elongation at yield point(%)	5.54 ±10%	5.57 ±10%	6.38±10%	5.38±10%	ASTM D638
Flexural modulus (MPa):	768.67 ±10%	531.27 ±10%	1284.19±10%	1284.19±10%	ASTM D790
Flexural strength (MPa):	29.82 ±10%	20.27 ±10%	47.48±10%	47.48±10%	ASTM D790
Notched impact strength (J/m):	40.03 ±10%	58 ±10%	101.04±10%	101.04±10%	ASTM D256
Maximum pulling force (N):	1349.40±10%	1142.47 ±10%	1779.51±10%	1779.51±10%	ASTM D638
Maximum force point of deformation (mm)	9.86 ±10%	12.33 ±10%	7.61±10%	7.61±10%	ASTM D638
Elongation at break (%):	17.48 ±10%	21.8 ±10%	15.26±10%	9.26±10%	ASTM D638
Hardness (Shore D):	80-88 D	78-86 D	80~86D	80~86D	ASTM D2240
Viscosity (MPa.S):	200-450	200-400	200~400	50~100	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.05~1.25	1.05~1.25	GB/T 22235

Introduction of Testing Machine & Testing Environment

Computer-controlled Servo Tensile Testing Machine

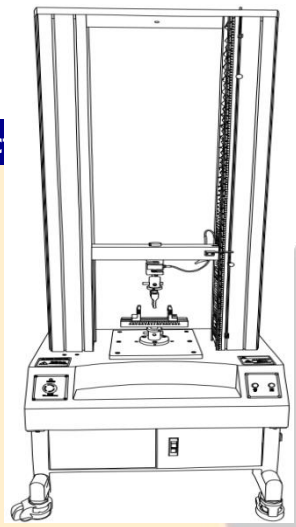


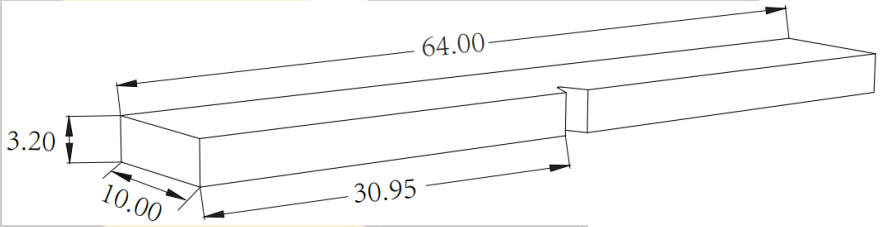
Tensile test specimen ASTM D638



Flexural test specimen ASTM D790

Digital IZOD Impac





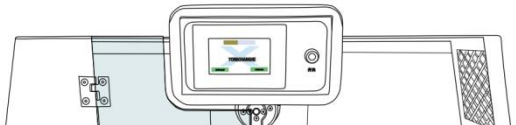
Impact test specimen ASTM D256

Testing Environment

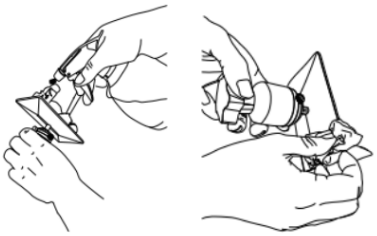
Temperature: 23±2℃
Relative Humidity: 50%RH±5%RH
Standard For Testing Splines: ASTM

Post Curing Box: 405nm UV, 200mw/cm²
Put the test strip in water and post cured for 1 minute on both sides.

Cleaning and Post-curing



1. Take off the printing platform from the printer.

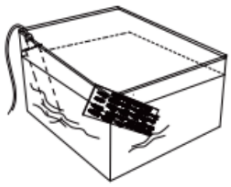


2. Spray isopropanol (alcohol> 95%) to clean away residue resin on the prints, wipe off the resin with tissue on the plateform.

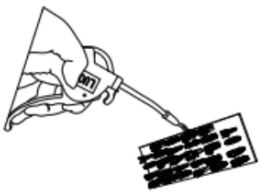
3. Spray alcohol again, dry it with air gun, repeat a few times till there's no resin on surface.

4. Carefully take off the prints from platform with scraper.

5. Soak the prints in alcohol in container, clean for 1-2min by ultrasonic machine.



If no ultrasonic cleaner, try to use an ultrasonic rod to clean for 2-3min.



6. Take out the prints and dry immediately with an air gun or a blower.

7. Suggest post curing in water, curing time 30-60s depends on the light power of the curing box (curing both sides). **Repeat step 6.**

Notice: For water washable resin, just cleaning with water by ultrasonic machine, don't forget to dry them in and out after post curing.

Caution

1. Wash hand and face thoroughly after handing.
2. Wear protective gloves / mask/protective clothing when using resin.
3. Contact eyes may cause irritation, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice immediately if necessary.
4. Waste water/waste shall be disposed of in accordance with local environmental regulations.

Storage

1. Please seal the product and store it in a dry, well-ventilated room with no corrosive gas.
2. Stored at 25~30℃ environment.
3. Keep away from heat source, keep away from moisture and avoid sun exposure.
4. Shelf life 18 months.

23th-May, 2023

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Technical Data Sheet 2023

10K Art-Engineering Resin

Engineering PRO Resin

Thermochromic Resin

Glow in Dark Resin

High Transparency Resin

High Temperature Resin

High Tenacity Pro Resin

Elastic Resin

Flexible Resin

Printing Setting

Model No.	Layer height (mm)	Bottom exposure time(s)	Layer exposure time(s)	Bottom Lift Distance (mm)	Lifting Distance (mm)	Bottom Lift Speed (mm/min)	Lifting Speed (mm/min)	Retract Speed (mm/min)	Rest time after retract
10K Art-Engineering Resin	0.05	25-35	2.5--3.5 orange red resin : 3--4	8-10	8-10	60	80	150	2-3
Engineering PRO Resin			3--4	10-12	10-12				3-5
Thermochromic Resin			2.5--3.5	6	6				2-3
Glow in Dark Resin		25-30	2.5--4.5						
High Transparency Resin			5--8						
High Temperature Resin			3--6						
High Tenacity Pro Resin		20-30	2.5--3.5						
Elastic Resin		25-30	8--12	8-10	8-10				
Flexible Resin			2.5--4.5						

Above settings are tested on ELEGOO MARS 3 (6.6'' monochrome LCD screen,light intensity 3500~4500μw/㎠), they should be adjusted according to different 3d printers and printing model structure，most settings can be keep as the printers' default firstly.

1. Bottom layer count = Bottom layer thickness/ Layer height+1，e.g. Bottom height 0.4mm, layer height 50um, the bottom layer count= 0.4mm/0.05mm+1=9 layers.

2. The exposure time should be adjusted according to printer light energy, layer thickness and model structure. If the layer height less than 0.05mm, we suggest the exposure time of each layer will be deducted about 0.5s.

3. If light power of printer is getting weak and cause failure, don't forget to add exposure time.

4. When printing with ordinary FEP/NFEP film, the recommended lifting distance as below，art-engineering，engineering pro， flexible resin need to add 2-6mm more according the above data.

Printing Setting - Different monochrome LCD screen

Model No.	Bottom Lift Distance (mm)	Lifting Distance (mm)
10K Art-Engineering Resin Elastic Resin Flexible Resin	7-10" screen size, lifting distance: 10-12mm; 10.1" screen size, lifting distance: 12-14mm; 13.3" screen size, lifting distance: 15-17mm; 15" screen size, lifting distance: 16-18mm;	7-10" screen size, lifting distance: 10-12mm; 10.1" screen size, lifting distance: 12-14mm; 13.3" screen size, lifting distance: 15-17mm; 15" screen size, lifting distance: 16-18mm;
Engineering PRO Resin	7-10" screen size, lifting distance: 12-14mm; 10.1" screen size, lifting distance: 14-16mm; 13.3" screen size, lifting distance: 17-19mm; 15" screen size, lifting distance: 18-20mm;	7-10" screen size, lifting distance: 12-14mm; 10.1" screen size, lifting distance: 14-16mm; 13.3" screen size, lifting distance: 17-19mm; 15" screen size, lifting distance: 18-20mm;
Thermochromic Resin Glow in Dark Resin High Transparency Resin High Temperature Resin High Tenacity Pro Resin	7-10" screen size, lifting distance: 8-10mm; 10.1" screen size, lifting distance: 10-12mm; 13.3" screen size, lifting distance: 13-15mm ; 15" screen size, lifting distance: 14-16mm	7-10" screen size, lifting distance: 8-10mm; 10.1" screen size, lifting distance: 10-12mm; 13.3" screen size, lifting distance: 13-15mm ; 15" screen size, lifting distance: 14-16mm

While printing with fast printing film(ACF film), lifting distance can be decrease 30-50%(Except Engineering Pro resin).
e.g. lifting speed was 80 (mm/min) at regular film, you can adjust to 40-60(mm/min) when using fast printing film(ACF film).

Notice:
1. Shake the resin well before use.
2. For Engineering Pro resin, if your printer does not have a heating function, recommended to print with fast printing film(ACF film).

Technical Specification

10K Art-Engineering Resin & 10K Art-Engineering Resin-Orange Red & Engineering PRO Resin Red

& Thermochromic Resin

	10K Art-Engineering Resin	10K Art-Engineering Resin-Orange Red	Engineering PRO Resin	Thermochromic Resin	Test Standard
Tensile strength (MPa):	38.36 ±10%	24.6 ±10%	41.89±10%	39.06 ±10%	ASTM D638
Tensile modulus (MPa):	447.12 ±10%	289.02 ±10%	490.88±10%	538.4 ±10%	ASTM D638
Elongation at yield point(%)	7.22 ±10%	5.8 ±10%	7.00±10%	3.09 ±10%	ASTM D638
Flexural modulus (MPa):	979.24 ±10%	471.2 ±10%	1104.04±10%	1412.8 ±10%	ASTM D790
Flexural strength (MPa):	44.15 ±10%	23.5 ±10%	43.435±10%	48.93 ±10%	ASTM D790
Notched impact strength (J/m):	454.37 ±10%	217.42 ±10%	279.54±10%	80 ±10%	ASTM D256
Maximum pulling force (N):	1308.20±10%	1023.81±10%	1742.64±10%	1624.96±10%	ASTM D638
Maximum force point of deformation (mm)	6.08 ±10%	18.4 ±10%	9.44±10%	5.32 ±10%	ASTM D638
Elongation at break (%):	35.44 ±10%	32.5 ±10%	21.204±10%	9.4 ±10%	ASTM D638
Hardness (Shore D):	80-88 D	78-80 D	78~82 D	80-86 D	ASTM D2240
Viscosity (MPa.S):	350-650	300-650	3000~5000	600-800	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.1~1.25	1.05-1.25	GB/T 22235

Glow in dark Resin & High Transparency Resin & High Temperature Resin

	Glow in dark Resin	High Transparency Resin	High Temperature Resin	Test Standard
Tensile strength (MPa):	34.1 ±10%	47.02 ±10%	27.3±10%	ASTM D638
Tensile modulus (MPa):	474.79 ±10%	561.78 ±10%	316.6±10%	ASTM D638
Elongation at yield point(%)	6.37 ±10%	6.05 ±10%	5.3±10%	ASTM D638
Flexural modulus (MPa):	943.52 ±10%	1166.8 ±10%	773.8±10%	ASTM D790
Flexural strength (MPa):	33.59 ±10%	52.84 ±10%	37.2±10%	ASTM D790
Notched impact strength (J/m):	89.44 ±10%	266.93 ±10%	76±10%	ASTM D256
Maximum pulling force (N):	1420.98 ±10%	1956.23 ±10%	1135.61±10%	ASTM D638
Maximum force point of deformation (mm)	5.95 ±10%	6.87 ±10%	9.0±10%	ASTM D638
Elongation at break (%):	10.65 ±10%	28.4 ±10%	16.1±10%	ASTM D638
Hardness (Shore D):	80-88 D	80-88 D	80-88	ASTM D2240
Viscosity (MPa.S):	500-800	1000-1300	150-300	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.05-1.25	GB/T 22235

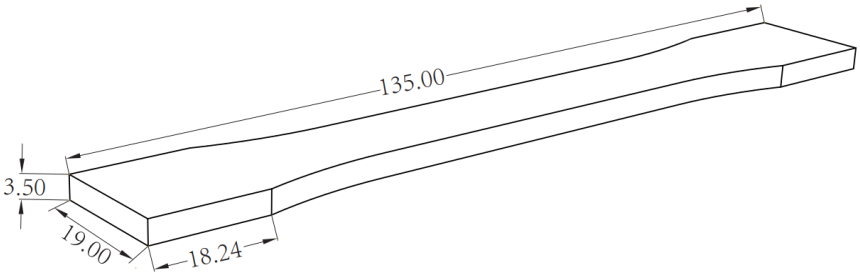
High Tenacity Pro Resin & Elastic Resin & Flexible Resin

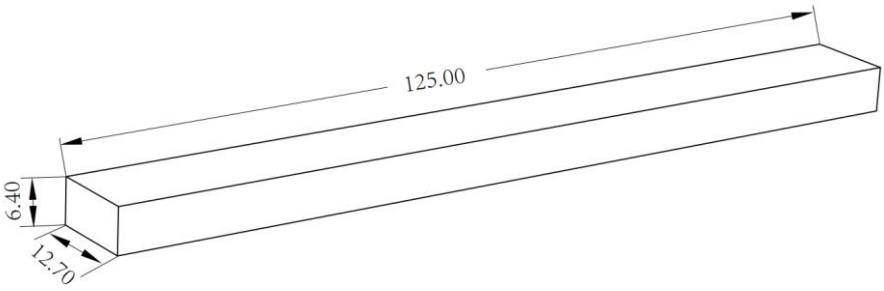
	High Tenacity Pro Resin	Elastic Resin	Flexible Resin	Test Standard

Tensile strength (MPa)：	22.58±10%	0.66 ±10%	4.62 ±10%	ASTM D638
Tensile modulus (MPa)：	267.74±10	0.598 ±10%	3.33 ±10%	ASTM D638
Elongation at yield point(%)：	7.387±10%	41.26 ±10%	69.83 ±10%	ASTM D638
Flexural modulus (MPa)：	672.86±10%	//	//	ASTM D790
Flexural strength (MPa)：	25.48±10%	//	0.86 ±10%	ASTM D790
Notched impact strength (J/m)：	47±10%	//	471 ±10%	ASTM D256
Maximum pulling force (N)：	939.48±10%	27.46±10%	192.21±10%	ASTM D638
Maximum force point of deformation （mm)	106.27±10%	75.87 ±10%	69.49 ±10%	ASTM D638
Elongation at break (%)：	187.13±10%	135.58 ±10%	122.71 ±10%	ASTM D638
Hardness (Shore D)：	73-75	40-50 (Shore A)	55-60 D	ASTM D2240
Viscosity (MPa.S):	500-650	550-750	50-150	GB/T 4472
Density (g/cm³)：	1.05~1.25g	1.05-1.25	1.05-1.25	GB/T 22235

Introduction of Testing Machine & Testing Environment

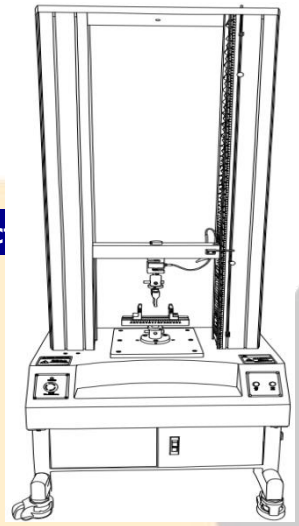
Computer-controlled Servo Tensile Testing Machine

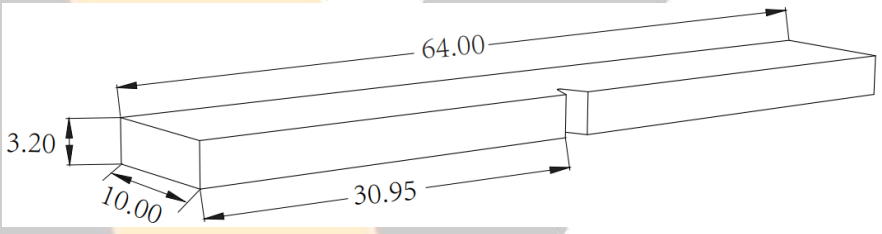




Flexural test specimen ASTM D790

Digital IZOD Impac





Impact test specimen ASTM D256

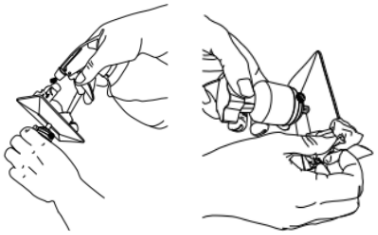
Testing Environment

Temperature: 23±2℃
Relative Humidity: 50%RH±5%RH
Standard For Testing Splines: ASTM

Post Curing Box: 405nm UV, 200mw/cm²
Put the test strip in water and post cured for 1 minute on both sides.

Cleaning and Post-curing

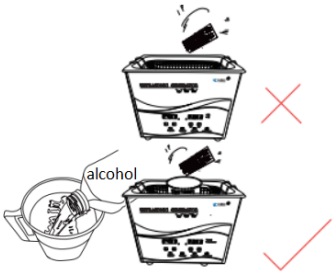
1. Take off the printing platform from the printer.



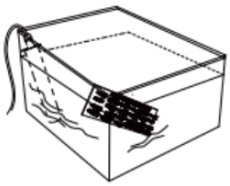
2. Spray isopropanol (alcohol> 95%) to clean away residue resin on the prints, wipe off the resin with tissue on the plateform.

3. Spray alcohol again, dry it with air gun, repeat a few times till there's no resin on surface.

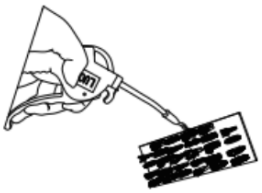
4. Carefully take off the prints from platform with scraper.



5. Soak the prints in alcohol in container, clean for 1-2min by ultrasonic machine.



If no ultrasonic cleaner, try to use an ultrasonic rod to clean for 2-3min.



6. Take out the prints and dry immediately with an air gun or a blower.

7. Suggest post curing in water, curing time 30-60s depends on the light power of the curing box (curing both sides). **Repeat step 6.**

Notice: For water washable resin, just cleaning with water by ultrasonic machine, don't forget to dry them in and out after post curing.

Caution

1. Wash hand and face thoroughly after handing.
2. Wear protective gloves / mask/protective clothing when using resin.
3. Contact eyes may cause irritation, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice immediately if necessary.
4. Waste water/waste shall be disposed of in accordance with local environmental regulations.

Storage

1. Please seal the product and store it in a dry, well-ventilated room with no corrosive gas.
2. Stored at 25~30℃ environment.
3. Keep away from heat source, keep away from moisture and avoid sun exposure.
4. Shelf life 18 months.

23th-May, 2023

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Technical Data Sheet 2023

10K Ortho Model Resin(IPA Clean)

10K Water washable Ortho Model Resin

Pro Model Resin

D-CAST Resin

Surgical Guide Resin

Gingiva Mask Resin

C&B Resin

Tray Resin

Denture Base Resin

Printing Setting

Model No.	Layer height (mm)	Bottom exposure time(s)	Layer exposure time(s)	Bottom Lift Distance (mm)	Lifting Distance (mm)	Bottom Lift Speed (mm/min)	Lifting Speed (mm/min)	Retract Speed (mm/min)	Rest time after retract
10K Ortho model resin	0.05	25-35s	2.5-3.5s	6	6	60	80	150	2--3
10K Water Washable Ortho Model Resin									
Pro model resin		20-30s	2.5-4.5s						
Surgical guide resin			4-6s						
Gingiva mask resin			4-8s						
C&B resin			3-6s						
Tray resin/Denture Base Resin									
D-CAST resin		30-50s	3-5s						

Above settings are tested on ELEGOO MARS 3 (6.6'' monochrome LCD screen,light intensity 3500~4500μw/㎠), they should be adjusted according to different 3d printers and printing model structure， most settings can be keep as default firstly.

1.Bottom layer count = Bottom layer thickness/ Layer height+1， e.g. Bottom height 0.4mm, layer height 50um, the bottom layer count= 0.4mm/0.05mm+1=9 layers.

2. The exposure time should be adjusted according to printer light energy, layer thickness and model structure. If the layer height less than 0.05mm, we suggest the exposure time of each layer will be deducted about 0.5s.

3. If light power of printer is getting weak and cause failure, don't forget to add exposure time.

4.When printing with ordinary FEP/NFEP film, the recommended lifting distance as below:
Less than 7'' screen size, lifting distance: 6mm
7-10"screen size, lifting distance: 8-10mm
10.1"screen size, lifting distance: 11mm
13.3"screen size, lifting distance: 14mm 15"screen
size, lifting distance: 15mm
When printing with fast printing film, lifting distance can be decrease 30-50%. e.g. lifting speed was 80 (mm/min) at regular film, you can adjust to 40-60(mm/min) while using fast printing film.

Notice:
1. Shake the resin well before use.
2. Please increase lifting distance 20-30% when print with Gingiva Mask Resin .

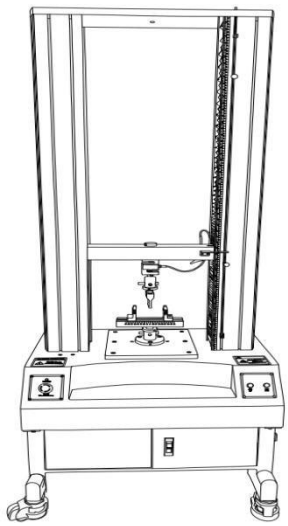
Technical Specification

10K Ortho Model Resin & Pro Model Resin & D-CAST Resin &Surgical Guide Resin					
	10K Ortho Model resin	**Pro Model Resin**	**D-CAST Resin**	**Surgical Guide Resin**	**Test Standard**
Tensile strength (MPa):	37.88 ±10%	25.9 ±10%	133.97 ±10%	25.62 ±10%	ASTM D638
Tensile modulus (MPa):	615.49 ±10%	305.9 ±10%	433.67 ±10%	320.8 ±10%	ASTM D638
Elongation at yield point(%)	3.09 ±10%	5.61 ±10%	6.22 ±10%	5.5 ±10%	ASTM D638
Flexural modulus (MPa):	1699.7 ±10%	616.4 ±10%	811.08 ±10%	693.51 ±10%	ASTM D790
Flexural strength (MPa):	57.91 ±10%	22.2 ±10%	39.81 ±10%	41.4 ±10%	ASTM D790
Notched impact strength (J/m):	72 ±10%	192.6 ±10%	113.97 ±10%	118.46 ±10%	ASTM D256
Maximum pulling force (N):	1575.9 ±10%	1077.8±10%	1272.9 ±10%	1576.9 ±10%	ASTM D638
Maximum force point of deformation （mm)	3.62 ±10%	14.47 ±10%	5.04 ±10%	9.99 ±10%	ASTM D638
Elongation at break (%):	6.41 ±10%	25.5 ±10%	8.85 ±10%	17.65 ±10%	ASTM D638
Hardness (Shore D):	80-88 D	80-85 D	85-88 D	80-85 D	ASTM D2240
Viscosity (MPa.S):	250-400	250-450	50-170	250-450	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.05-1.25	1.05-1.25	GB/T 22235
Gingiva Mask Resin & C&B Resin & Tray Resin					

	Gingiva Mask Resin	C&B Resin	Tray Resin	10K Water Washable Ortho model Resin	Test Standard
Tensile strength (MPa):	1.33 ±10%	30.00 ±10%	25.62 ±10%	31.44 ±10%	ASTM D638
Tensile modulus (MPa):	1.32 ±10%	490.91 ±10%	320.8 ±10%	471.03 ±10%	ASTM D638
Elongation at yield point(%)	40.62 ±10%	6.36 ±10%	5.5 ±10%	6.32 ±10%	ASTM D638
Flexural modulus (MPa):	--	927.13 ±10%	693.51 ±10%	1091.45 ±10%	ASTM D790
Flexural strength (MPa):	--	30.98 ±10%	25.48 ±10%	40.82±10%	ASTM D790
Notched impact strength (J/m):	--	32 ±10%	118.46±10%	50±10%	ASTM D256
Maximum pulling force (N) :	55.3 ±10%	1248.4 ±10%	1065.9 ±10%	1014.9 ±10%	ASTM D638
Maximum force point of deformation （mm)	40.62 ±10%	3.56 ±10%	9.99 ±10%	4.33 ±10%	ASTM D638
Elongation at break (%):	110.28 ±10%	32 ±10%	17.65 ±10%	7.65 ±10%	ASTM D638
Hardness (Shore D):	50-60 D	80-90 D	80-85 D	80-85 D	ASTM D2240
Viscosity (MPa.S):	350-550 D	100-250	250-450	70-175	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.05-1.25	1.05-1.25	GB/T 22235

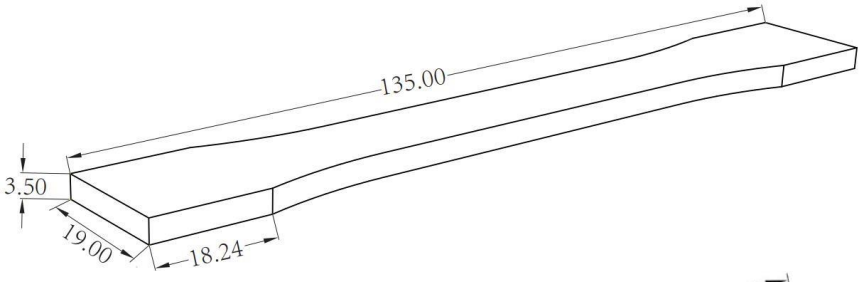
Introduction of Testing Machine & Testing Environment

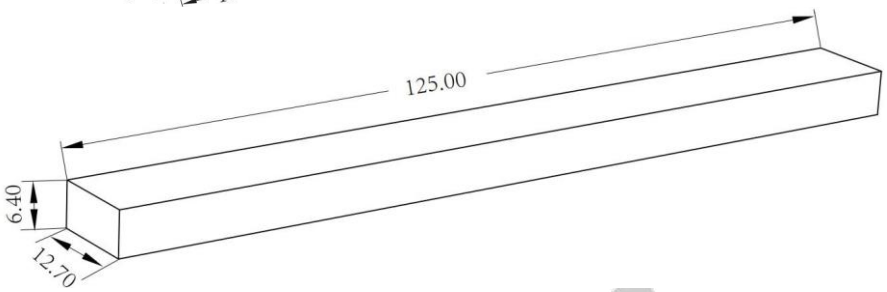
Computer-controlled Servo Tensile Testing Machine



Tensile test specimen ASTM D638

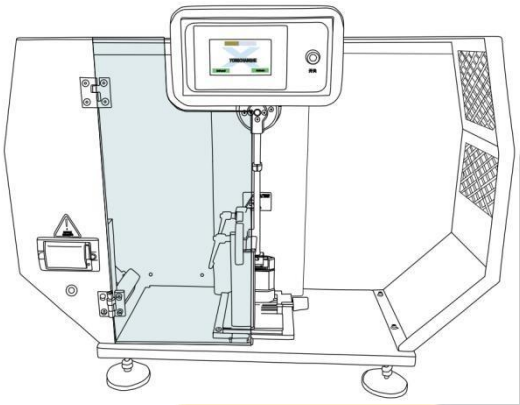
Flexural test

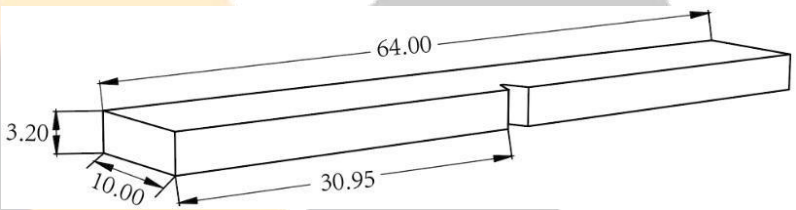




specimen ASTM D790

Digital IZOD Impact Tester





Impact test specimen ASTM D256

Testing Environment

Temperature: 23±2℃

Relative Humidity: 50%RH±5%RH

Standard For Testing Splines: ASTM

Post Curing Box: 405nm UV, 200mw/cm²

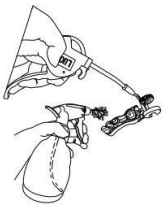
Put the test strip in water and post cured for 1 minute on both sides.

Cleaning and Post-curing

1.Take off the printing platform printer.

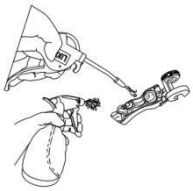
2. Spray isopropanol (alcohol>95%) to clean away residue resin on the prints surface.

3. Spray alcohol again then dry it repeat a few times till no resin on on the platform.



4. Carefully take off the prints from the from platform with scraper.

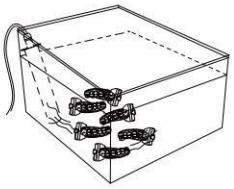
wipe off the resin with tissue



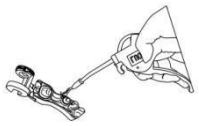
5.Repeat step 3.

6.Place the work piece into a container with alcohol, the alcohol should fully for 5-10mins.

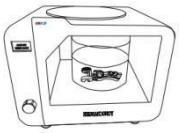
7.Put the container into ultrasonic machine, clean for 1-2 mins.



8.If no ultrasonic cleaner, try to use an ultrasonic rod, cover it. Clean



9.Take out the prints and dry immediately with an air gun blower. (Curing time 30-60s,



10. Suggest to do post curing in water, curing time depends on the light power of the curing box, or curing both sides). Repeat step 9.

Notice: For water washable resin, just cleaning with water by ultrasonic machine, don't forget to dry them in and out after post curing.

Caution

1. Wash hand and face thoroughly after handing.
2. Wear protective gloves / mask/protective clothing when using resin.
3. Contact eyes may cause irritation, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice immediately if necessary.
4. Waste water/waste shall be disposed of in accordance with local environmental regulations.

Storage

1. Please seal the product and store it in a dry, well-ventilated room with no corrosive gas.
2. Stored at 25~30℃ environment.
3. Keep away from heat source, keep away from moisture and avoid sun exposure.
4. Shelf life 18 months.

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Technical Data Sheet 2023

General jewelry casting resin
X-cast resin
Ultra cast resin
High wax plus resin
Jewelry mold resin

Printing Setting

Model No.	Layer height (mm)	Bottom exposure time(s)	Layer exposure time(s)	Bottom Lift Distance (mm)	Lifting Distance (mm)	Bottom Lift Speed (mm/min)	Lifting Speed (mm/min)	Retract Speed (mm/min)	Rest time after retract
General jewelry casting resin	0.05	40-50	8-12	6	6	60	80	150	2--3
High wax plus resin			8-10						
X-cast resin			8-12						
Ultra cast resin									
Jewelry mold resin		20-30	3-6						

Above settings are tested on ELEGOO MARS 3 (6.6'' monochrome LCD screen,light intensity 3500~4500μw/㎠), they should be adjusted according to different 3d printers and printing model structure, most settings can be keep as the printers' default firstly.

1. Bottom layer count = Bottom layer thickness/ Layer height+1， e.g. Bottom height 0.4mm, layer height 50um, the bottom layer count= 0.4mm/0.05mm+1=9 layers.

2. The exposure time should be adjusted according to printer light energy, layer thickness and model structure. If the layer height less than 0.05mm, we suggest the exposure time of each layer will be deducted about 20-25%.

3. If light power of printer is getting weak and cause failure, don't forget to add exposure time.

4. When printing with ordinary FEP/NFEP film, the recommended lifting distance as below:
Less than 7'' screen size, lifting distance: 6mm；　　7-10”screen size, lifting distance: 8-10mm
10.1”screen size, lifting distance: 11mm；　　13.3”screen size, lifting distance: 14mm
15”screen size, lifting distance: 15mm
When printing with fast printing film, lifting distance can be decrease 30-50%.
e.g. lifting speed was 80 (mm/min) at regular film, you can adjust to 40-60(mm/min) while using fast printing film.

Technical Specification

UPIC Series & X-cast Resin Jewelry Casting Resin

	UPIC Series (General jewelry casting resin)	EC Series (X-cast resin)	**Test Standard**
Tensile strength (MPa)：	20.88 ±10%	3.44 ±10%	ASTM D638
Tensile modulus (MPa)：	152.8 ±10%	23.72 ±10%	ASTM D638
Elongation at yield point(%)	47.34 ±10%	8.76 ±10%	ASTM D638
Flexural modulus (MPa)：	333.68 ±10%	220.46 ±10%	ASTM D790
Flexural strength (MPa)：	13.75 ±10%	2.89 ±10%	ASTM D790
Notched impact strength (J/m)：	117.72 ±10%	47 ±10%	ASTM D256

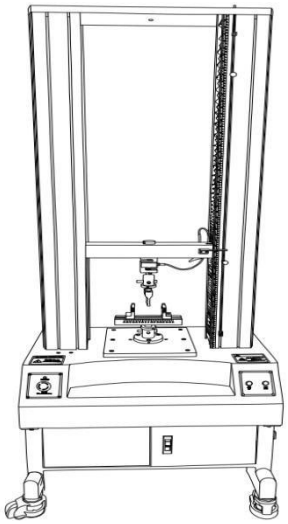
Maximum pulling force (N):	868.86 ±10%	143.17 ±10%	ASTM D638
Maximum force point of deformation （mm):	18.73 ±10%	8.50 ±10%	ASTM D638
Elongation at break (%):	32.96 ±10%	15.06 ±10%	ASTM D638
Hardness (Shore D):	58-68	43-45	ASTM D2240
Viscosity (MPa.S):	70-180	170-270	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	GB/T 22235

Ultra Cast Resin & EWIC Series of Jewelry Castable Resin & Jewelry Mold Resin

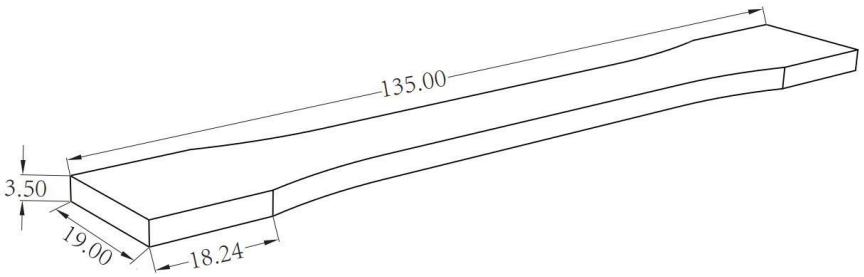
	CWIC-10B (Ultra cast resin)	EWIC-3000 (Jewelry casting resin)	HTC-29A (Jewelry Mold Resin)	**Test Standard**
Tensile strength (MPa):	5.82 ±10%	21.02 ±10%	27.3±10%	ASTM D638
Tensile modulus (MPa):	46.73 ±10%	209.35 ±10%	316.6±10%	ASTM D638
Elongation at yield point(%):	8.80 ±10%	7.69 ±10%	5.3±10%	ASTM D638
Flexural modulus (MPa):	161.15 ±10%	425.80 ±10%	773.8±10%	ASTM D790
Flexural strength (MPa):	4.34 ±10%	16.50 ±10%	37.2±10%	ASTM D790
Notched impact strength (J/m):	37.5 ±10%	86.7 ±10%	76±10%	ASTM D256
Maximum pulling force (N):	242.22 ±10%	874.75 ±10%	1135.61±10%	ASTM D638
Maximum force point of deformation （mm)	7.30 ±10%	12.02 ±10%	9.0±10%	ASTM D638
Elongation at break (%):	13.06 ±10%	21.25 ±10%	16.1±10%	ASTM D638
Hardness (Shore D):	50-60	60-70	80-88	ASTM D2240
Viscosity (MPa.S):	80-150	150-230	150-300	GB/T 4472
Density (g/cm³):	1.05-1.25	1.05-1.25	1.05-1.25	GB/T 22235

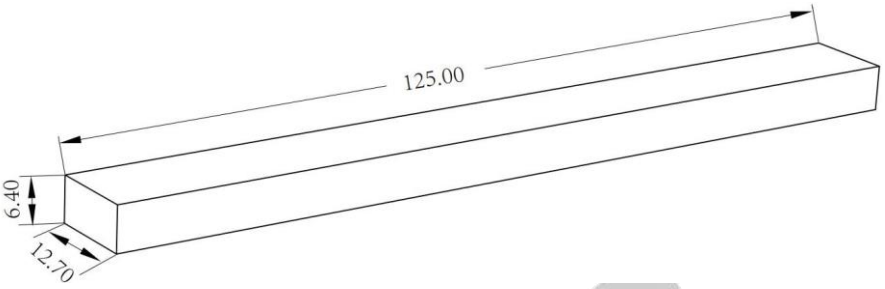
Introduction of Testing Machine & Testing Environment

Computer-controlled Servo Tensile Testing Machine



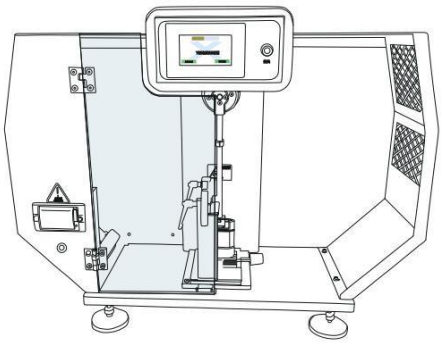
Tensile test specimen ASTM D638

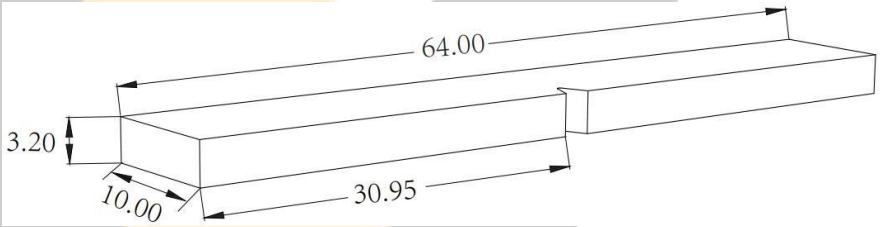




Flexural test specimen ASTM D790

Digital IZOD Impact Tester





Impact test specimen ASTM D256

Testing Environment

Temperature: 23±2℃

Relative Humidity: 50%RH±5%RH

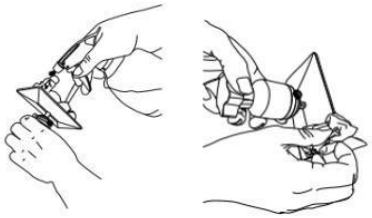
Standard for Testing Splines: ASTM

Post Curing Box: 405nm UV, 200mw/cm²

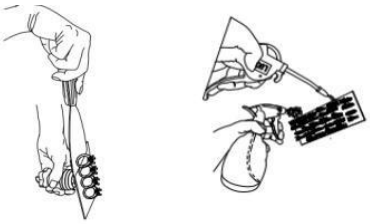
Put the test strip in water and post cured for 1 minute on both sides.

Cleaning Process and Post-curing Process of All Jewelry Castable Resin

1. Remove the printing platform from the printer.

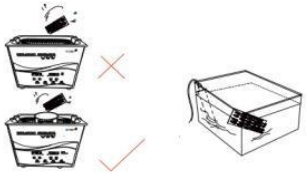


2. Spray Isopropanol (alcohol> 95%) to clean away residue resin that on the prints and wipe off the resin with tissue from the platform.



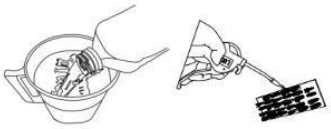
4. Carefully take off the prints from platform with scraper. Spray alcohol again then dry it with air gun, repeat a few times till there's no resin on surface.

5. Place the work piece into a container with alcohol, the alcohol should fully cover it.



6. It is recommended to put the prints in a container with alcohol fully cover while using ultrasonic machine which is safer.
If there is no ultrasonic cleaner, try to use an ultrasonic rod.
Recommended post-curing time:
General jewelry casting resin, 1-2 mintues
X-cast resin/ High wax plus resin/ Ultra cast resin, 5 mintues.

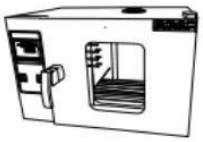
7. Dry and clean the work piece immediately.



8. Prepare a container with fresh alcohol, put the prints in it and repeat the steps **6&7** if necessary.
After thoroughly cleaning, take out the prints and dry immediately with an air gun or a blower.

9. Suggest to do post curing in water, curing time depends on the light power of the curing box and thickness of the prints.

(Normally recommended curing time: 30-60s, curing both sides).

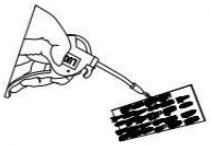


10. Take prints out and dry.

Notice: If here are white dots on prints, just ignore, do not affect casting result. Or you can blow it with hot wind till the white spots disappeared, or baked it in the oven at 160℃ for 10 minutes.

Introduction of Post-curing Ultra-Cast Resin Model from Yellow to White color :

9. After step **8**, prepare a container with fresh alcohol, soak in IPA for 30mins.



10. Take out the prints and dry immediately with an air gun or a blower.

11. Soak in 100℃ hot water, water level soak the prints completely with margin.

12. Post-curing in 500w(or above 500w) curing box for 30mins-40mins.

13.Take out the prints and dry it with hot wind.

14. The prints will be in white.

Notice:

The prints in yellow or white do not affect casting results.

Caution

1. Shake the resin well before use.
2. Wash hand and face thoroughly after handing.
3. Wear protective gloves / mask/protective clothing when using resin.
4. Contact eyes may cause irritation, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice immediately if necessary.
5. Waste water/waste shall be disposed of in accordance with local environmental regulations.

Storage

1. Please seal the product and store it in a dry, well-ventilated room with no corrosive gas.
2. Stored at 25~30℃ environment.
3. Keep away from heat source, keep away from moisture and avoid sun exposure.
4. Shelf life 18 months.