Technical Datasheet

Model Maker

385-405nm

Photocentric

Optimised for:

- Tabletop gaming miniatures
- Collectible figurines & characters
- Scale models & creative hobby projects
- Multi-part kits & prototypes models

Yeti Model
by Artificers Mini

Ogre Model
by Txarli Factory

‘Model Maker’ is a high-precision 3D printing resin developed specifically for figurines, miniatures and scale models. It delivers sharp detail, a smooth matt surface and balanced toughness, making both printing and finishing effortless.

Designed and manufactured in the UK, Model Maker combines professional performance with consistent quality at a market-competitive price.

Compatible:
385-405nm
LCD 3D Printers

Colour
Grey

Avaliable:
1 & 5kg bottles

MADE IN THE UK

Key Features

Durable

High precision

Strong

Smooth Matt Finish

Low shrinkage

Low Viscosity

Easy to Use

Low cost

Model Maker Properties

Tensile Properites	Green	Post-cured	Method
Tensile Modulus	1040 MPa	2090 MPa	ASTM D638
Tensile Strength (Break)	26 MPa	36 MPa	ASTM D638
Tensile Strength (Yield)	29 MPa	45 MPa	ASTM D638
Elongation at Break	5.5%	35%	ASTM D638
Flexural Properties			
Flexural Strength	-	1950 MPa	ASTM D790
Flexural Modulus	-	75 MPa	ASTM D790
Impact Properties			
Impact Strength Notched Izod	-	41J/m	ASTM D256
General Properties			
Shore Hardness	-	83 Shore D	ASTM D2240
HDT (@ 0.455 MPa)	-	52°C	ASTM D648
Water absorption (%) after 24 hrs		0.91%	ASTM D570
Water absorption (%) after 72 hrs		1.42%	ASTM D570
Water absorption (%) after 7 days		2.07%	ASTM D570

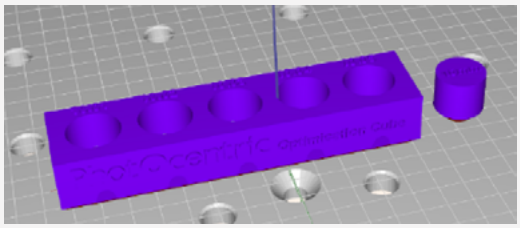
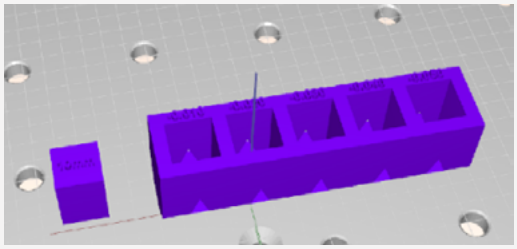
*Post cured for 1 hr at 60°C in Photocentric CureM+.

Liquid Properties	Value	Method
Viscosity	450 cPs	At 25°C Brookfield spindle 3
Density	1.11 g/cm3	Internal
Storage	10<T<50°C	

We are constantly reviewing and improving our range of high-performance materials.
For the very latest information, please visit the Photocentric website

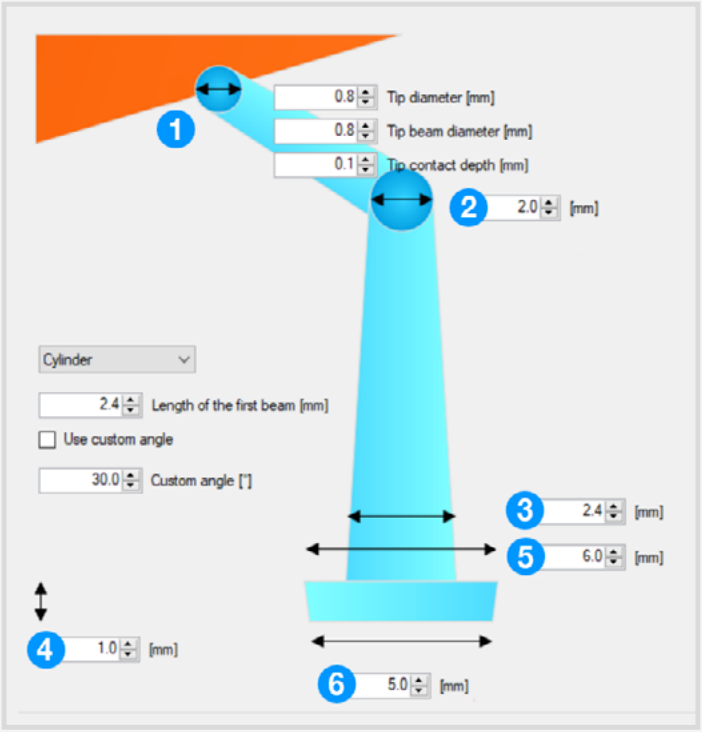
Design Consideration Parameters

These are example parameters in relation to a UV LCD printer with <50µm XY resolution.

Properties	Parameters
Minimum feature size (pins)	0.4mm
Minimum hole diameter	0.7mm
Minimum slot thickness	0.5mm
Minimum wall thickness	0.3mm
Overhangs	Successful for overhangs ≤45°
Round Dim Fit	Parts fit with resistance at 1mm Click to view sample 
Square Dim Fit	Parts fit perfectly with no resistance at 0.06mm offset Click to view sample 
Scaling factor	X +0.6% Y+0.6% Z+0.6%

Recommended Support Parameters & Orientation

These are recommended support settings in relation to a UV LCD printer with <50µm XY resolution.



	Large Models		Small Models	
Diagram Ref. Nr	Parameters	Values	Parameters	Values
	Density	80%	Density	50%
1	Tip Diameter (mm)	0.5	Tip Diameter (mm)	0.5
	Critical Build Angle	47°	Critical Build Angle	47°
2	Pole Diameter (mm)	2	Pole Diameter (mm)	1.5
3	Pole Widening Factor	1.5	Pole Widening Factor	2
	Model Height from Base (mm)	10	Model Height from Base (mm)	10
4	Height of Support Foot (mm)	2	Height of Support Foot (mm)	2
5	Top of Foot Diameter (mm)	7	Top of Foot Diameter (mm)	7
6	Bottom of Foot Diameter (mm)	5	Bottom of Foot Diameter (mm)	5

• Recommended orientation around all axes is 45 °.

Printer and Resin Profilling

- Photocentric UV high-performance resins have been formulated to be compatible with a wide range of 3rd Party Printers. This list is continually updated, for the most up-to-date information, please visit our UV Resin Compatibility Page. All resins are functional at a wavelength of 385-405 nm.
- Please see below instruction on how to calculate appropriate exposure time with regards to your 3rd party UV printer and purchased resin

Layer Exposure Guidelines

This guide will assist you in establishing a layer exposure time for a desired resin and layer thickness based on the characteristics of Photocentric's UV Resin range and your UV 3D printer.
Each resin requires a specific energy (Ec) to cure a certain layer thickness (Dp). 'Energy' is defined by multiplying 'light output intensity' of your printer and a 'given time of exposure'. The equation below simply explains the matter.

Energy [mJ/cm²]= Light Output Intensity [mW/cm²] x Exposure Time [s]	Layer Thickness (µm)	100
	Exposure time for a UV 3D printer with 5mW/cm2 light output intensity	3 sec
Your UV 3D printer manufacturer will provide you with light output intensity value.	Ec(mJ/cm2)	15

Bear in mind the exposure time vs energy is not a linear trend, and this data is intended strictly as a guideline. Settings may need to be further optimised to suit each printer.

Pre-Print Instructions

1. Heat the resin to 30°C in the bottle.
2. Shake the resin bottle for 2 minutes before pouring into the resin vat.
3. Stir resin in vat with vat cleaning tool for pigment drop out etc. before and between prints if the print is immediate and vat is not being emptied.
4. Visit https://photocentricgroup.com/print-settings/ for print settings recommendation.

Post-Print Instructions

To reach the full mechanical properties of the material, parts printed using ‘Model Maker- Grey’ resin will need to be post-processed.

1. Remove the print platform from the printer and place into the wash unit.
2. Wash the printed parts following the instructions for the cleaning solvent. For example, when using Photocentric Resin Cleaner 30, wash for 5 minutes. Alternatively, wash the parts in IPA for approximately 5 minutes in an ultrasonic cleaner.
3. Do not exceed the recommended wash time, as excessive washing may negatively affect the mechanical properties of the printed parts.
4. Rinse the parts with warm water for 1–2 minutes to remove any remaining cleaning solvent.
5. Dry the parts thoroughly. Where possible, use compressed air; alternatively allow the parts to air dry completely.
6. Part removal (two options):
    - For best dimensional accuracy: Leave parts on the build platform during curing to minimise distortion or warpage.
    - For easier support removal: Remove parts from the platform before curing using a scraper or suitable cutters, taking care not to damage the parts.
7. Post-cure the printed parts in a UV curing unit for 1 hour at 60 °C.