

STUDY™ Dental Model Resin



Study™ Tooth & Grey - Colours may vary from screen image



TECHNICAL DATASHEET

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Company Information

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Product Description

Monocure 3D STUDY™ Dental Model resin was developed for 3D printing precision models required for dental professionals. It was formulated to be easy to print, have a gypsum-like texture, and have a low odour. It is suitable for a wide range of 3D printed dental general model processing.

SKU(s): 3DDR-3976SGY, 3DDS-3977SGY, 3DDR-3978GY, 3DDS-3979GY, 3DDR-3980TO, 3DDS-3981TO

Material: Epoxy Based Photopolymer

Available Colours: Grey, Tooth & Slate Grey

Suitable Models: Study | Diagnostic | Implant | Wax-up | Presentation



[/product-category/resins/dental-resins/study](https://product-category/resins/dental-resins/study)



www.monocure3d.com.au

STUDY™

General Purpose 3D Dental Model Resin

STUDY™ Dental model resin is based on our original epoxy Dental Model formula. With the assistance of leading dental industry professionals, the formula was designed to have high dimensional stability and a gypsum-like matte texture for general-purpose 3D dental model processing.

PRINTING TIPS

- ✓ Ensure the material is mixed well before each time you print. This should be done by shaking the bottle or stirring the resin in the VAT before each print. Unused resin can be filtered and returned to the bottle.
- ✓ Most 3D Printers & Resin materials are unique and require setting up before first-time use. We recommend that you dial-in new printers and resins using one of our handy calibration models.
- ✓ Removing the excess resin is an important part of the resin printing process. This ensures that there is no trapped resin that can affect the detail of the model. IPA can be used, but for the best results and a safer alternative, we recommend our ResinAway® cleaning solution.
- ✓ After the washing process, post-curing any UV resin is vital. It helps remove any tackiness and completes the cross-linking process. This ensures the material is at its optimal mechanical properties as the final cross-linking occurs.

RESIN COMPATIBILITY: DLP & MSLA 3D Printers Guide

STUDY™ Dental Model Resin is available in three popular colours, Grey, Tooth & Slate Grey. Since DLP printers output more power than MSLA, we have a version to cover both system types.

Choose the DLP formula if your printer uses a projector module (DLP) to expose the layers. These include brands and models such as the MoonRay, SprintRay, Peopoly Moai, Asiga UV-Max & Pro 4K, Phrozen Make, B9 Creator, Flashforge Hunter, XYZ Nobel, and Kudo Titan.

If your 3D printer uses an LCD screen and a LED array (MSLA) to expose the layers, you must use our regular MSLA formula. These include Anycubic, Phrozen, Creality, Elegoo, Epax, Peopoly, Prusa, Uniz, Wanhao, WOW SparkMaker & Kelant.



Rapid Speed

Fast printing with high accuracy. No shrinking or warping formulation. Fast layer curing means jobs are done more quickly.



Gypsum-like Texture

STUDY™ resin has a high level of opaqueness, with a smooth gypsum-like matte surface finish that is less stressful on the eyes.



3 Popular Colours

Our Dental Model Resin is available in 3 colours: Grey, Tooth & Slate. These are suitable for all general-purpose dental model work.



MSLA & DLP formulas

Choose the formula best suited to work with your 3D resin printer.

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MECHANICAL PROPERTIES

Method Code: ASTM D638-14
Product: Monocure 3D STUDY™ Resin (50µm)
Acceptance Code: Supply Findings
Specimen Type: Rectangular beam samples (Type IV)
Equip' Serial No: UTM Serial No. 075
Conditioning: Tested at ambient temperature



SKUs	3DDR-3976SGY, 3DDS-3977SGY, 3DDR-3978GY, 3DDS-3979GY, 3DDR-3980TO, 3DDS-3981TO	Flexural Band Span (mm)	86.23
Cross-Sectional Area (mm ²)	25.29	Max Load Applied (N)	380
Max Force (kN)	1.64	Flexural Stress (MPa)	124
Tensile Strength (MPa)	47	Max Flex Strain (mm/mm)	0.5
Elongation at Break (%)	3.0	Shore Hardness (D)	75
Young's Modulus (GPa)	1.8	Heat Deflection Temp (C°)	55°C @ 0.45MPa

Available in three custom dental colours: Tooth, Grey, and Slate Grey (perfect for 3D scanning). Sold in both 1ltr & 5ltr UV-safe bottles. Check our reseller list to find local supplies in your area to ensure you never run out.

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Tensile (MPa)	Low	47	High
Young's Modulus (Gpa)	Pliable	1.8	Stiff
Elongation at Break (%)	Low	3	High
Flexural Stress(MPa)	Low	124	High
Shore Harness (D)	Soft	75	Hard
Heat Deflection Temp (C°)	Low	55	High

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MSLA LIQUID PROPERTIES

SKUs	3DDR-3978GY, 3DDR-3980TO & 3DDR-3976SGY
Colour(s)	Grey, Tooth & Slate Grey
Viscosity	400cps @ 25°C (BrookfieldRVT)
Odour	Negligible Characteristics
Shelf Life	36 months
Active Solids	100%
UV Cure	225nm to 420nm
Cure Speed	2-3 secs per layer with UV 405nm


TECHNICAL

Storage	Dark, cool & dry place.
Wash Up	RESINAWAY® or IPA
Compatible MSLA 3D Printers	 (monocure3d.com.au/printers)
	Anycubic Phrozen Creality Elegoo Epax Peopoly Prusa Uniz Wanhao SparkMaker Kelant Not Listed – Contact Us

DLP LIQUID PROPERTIES

SKUs	3DDS-3978GY, 3DDS-3980TO & 3DDS-3976SGY
Colour(s)	Grey, Tooth & Slate Grey
Viscosity	400cps @ 25°C (BrookfieldRVT)
Odour	Negligible Characteristics
Shelf Life	36 months
Active Solids	100%
UV Cure	225nm to 420nm
Cure Speed	1 – 3 secs per layer DLP UV 385 - 405nm

DATASHEET

Storage	Dark, cool & dry place.
Wash Up	RESINAWAY® or IPA
Compatible DLP 3D Printers	 (printers/asiga-max-uv-dental)
	Asiga (Scan QR Code for .ini configuration files) SprintRay Peopoly MoonRay Phrozen Make B9 Creator Flashforge Hunter XYZ Nobel Kudo Titan Not Listed – Contact Us



FIND YOUR PRINTER SETTINGS

Access the slicer settings for dialing in with our all-resin systems by selecting your 3D printer(s) from the list available on our website, where you can also find information on printer specifications, reviews, and videos; if your printer is not listed, please do not hesitate to contact us.



PRINTER NOT LISTED?

Feeling frustrated with calibration? Download our Calibration Model to fine-tune your printer and get the best results. Need further assistance? Our local resin 3D printing experts are just an email away at support@monocure3d.com.au if you need one-on-one support.



DISCLAIMER

Please note that while our settings serve as a useful guide, not all 3D printers are created equal. Due to variations in make and model, your 3D printer may require different layer durations to achieve the desired results. Call us on +612 (0) 9738 5340





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WORKFLOW PROCEDURES

Most 3D Printers & resin materials are unique and require setting up before first-time use.

We recommend that you dial-in new printers and resins using one of our handy calibration models that can be found at <https://monocure3d.com.au/product-category/3d-models/calibration-models/>

PRINTER SETTINGS

The following example settings have been formulated with consideration for monochrome MSLA 3D printers employing a 405nm light source. For more information pertaining to all our materials and most popular 3D printer models, please refer to the official settings page at: <https://monocure3d.com.au/printers/>

Shake resin bottle well before each use

Temperature: 18°C to 35°C

Layer Thickness: 50µm

Base layer Duration: 20-40(sec)

No. Base Layers: 4

Normal Layer Exposure: 2-3(sec)

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CLEANING

For optimal post-printing results, use ResinAway® to remove uncured resin. With enhanced cleaning, non-flammable properties, and a pleasant scent, follow the guidelines for the best finish on 3D dental models.

STEP 1. Ultrasonic cleaner with ResinAway®: 3-5mins

STEP 2. Dry models: Compressed air 20secs*

*Warning: Excess IPA or ResinAway® on models might result in surface cracking.



POST-CURING

STUDY™ resin requires post-curing to reach its optimal mechanical properties.

STEP 3. UV Light Source: 405nm LED Ultraviolet light.

STEP 4. Minimum Post-Curing Duration (m): 5mins

STEP 5. Remove the excess ResinAway® by washing with water.

STEP 6. Place the model in the curing chamber for a minimum of 30 minutes to enhance the materials tensile strength.

STORAGE

To ensure optimal performance and shelf life of Monocure 3D resins, store them in a cool, dark environment, tightly sealed in their original containers, away from heat, direct sunlight, and moisture, while also taking care to prevent the resins from freezing.



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Technical Data Sheet Disclaimer

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