VeriSplint™ OS 3D PRINT RESIN

INSTRUCTIONS

Indications for Use

Whip Mix VeriSplint™ OS is a light-cured resin and sold as **℞ only**. It is a base polymer used to create removable structures for therapeutic restorations i.e., bite guards/splints and occlusal night guards/splints using the Additive Manufacturing process. The resin in combination with a scanner, printer, and curing unit make up the system.

Hardware Requirements

- Asiga 3D Printers: Asiga Pro 2 UV 385 nm, Asiga Max UV 385 nm
- 3Shape Dental Scanners: TRIOS, E1, E2, E3, D500, D700, D800, D900, D750, D850, D900L, D1000, D2000
- Curing Unit: Otoflash G171

Software Requirements

- Design Software: 3Shape Ortho System Version 2017 or later, 3Shape Dental System (Splint Designer Module) Version 2017 or later
- Printer Software: Asiga Composer Version 1.2.8 or later

CAUTION: Any unauthorized changes to the process equipment, parameters, or software may result in a device that is out of specification and is not recommended. Contact Whip Mix for a list of compatible components.

For Outside the USA, the recommended system is:

- A printer with 385 nm wavelength, and a maximum XY resolution of 100 µm.
- A curing unit with a minimum of 200 Watt light power and UVA irradiation (315-400 nm). Splints should be cured for a minimum of 10 minutes.

Additional qualified equipment

For all qualified printers and curing units please refer to the Resource library at **https://whipmix.com/technical-resources/**

Storage

- VeriSplint™ OS must be stored in the original packaging at room temperature in a dry area.
- Always keep container tightly sealed and close the container immediately after each use.
- Do not expose VeriSplint™ OS to any light source. Minimum amount of light can induce polymerization (solidification).
- Resin that is stored in a tray must be stirred before each print using a plastic or paper card (similar to a business card), to ensure a homogenous mixture.
- Do not use the product past the expiration date.
- The lot number and expiration date are indicated on VeriSplint™ OS packaging. In case of questions or concerns, please refer to the lot number.

Splint Design Recommendation

Minimum side wall thickness	1 mm
Minimum occlusal surface thickness	1.5 mm
Internal offset	≥ 0.1 mm
Block out angle	0°
Retention amount	0 mm

Processing

- When printing with VeriSplint™ OS 3D Print Resin, make sure resin is at a temperature between 20°C and 30°C. Extreme high or low temperatures could potentially affect the accuracy of the printed models or cause failure of the printed objects.
- Please use VeriSplint™ OS material file in Asiga Composer software provided by Whip Mix Corporation.
- VeriSplint™ OS bottle must be shaken thoroughly for approximately five minutes before use.
- Splints can be printed at slice thicknesses of 50, 75 or 100 microns.
- **Don't add supports to the intaglio surface.**
- Don't print with the end of the splint arch attached to the Asiga build plate with any print orientation because failure could happen at the tip of the arch.
- After the build process is finished, post processing is required.

Post Processing

- When the print job is complete, remove the build platform from the printer, then carefully remove the printed objects from the platform.
- **The printed object must be rinsed using an ultrasonic alcohol bath for 5 – 10 minutes to eliminate any excess resin.**
- **Printed objects should then be rinsed in a second fresh ultrasonic alcohol bath for an additional 5 – 10 minutes.**
- To remove excess alcohol, leave prints to dry at room temperature (or compressed air can also be used).
- Carefully remove all support structures from the printed object.
- **Place the printed objects in the light curing unit Otoflash G171 for 6000 flashes.**
- Look for cured debris in the tray after each print job. A paint strainer can be used to filter out any debris. Printing with cured debris could potentially cause damage to the tray or the printed objects.

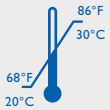
Finishing

- Use cross-cut carbide bur at a slow speed to remove the remaining printed support pins.
- Use a rag wheel at low speed and medium grit pumice to smooth the outside surfaces of the printed splint.
- Do not polish the intaglio surface of the printed splint as this can alter the fit.
- To achieve a glass like surface, use a dry rag wheel and a high shine acrylic polish.

PHYSICAL PROPERTIES

Technical data:

- Color: Clear
- Density: ca. 1.1g/ml
- Viscosity: Average 600 – 900 cP at 25°C
- Storage:



Ordering information:

Standard packing: 1kg (910ml)
Item no.: **71174**

PROPERTY BASED ON ISO 20795-2	REQUIREMENT	RESULT
Ultimate Flexural Strength	≥ 50 MPa	> 100
Flexural Modulus	≥ 1500 MPa	> 2500
Maximum Stress Intensity Factor	≥ 1.1 MPa $m^{1/2}$	1.75
Total Fracture Work	≥ 250 J/m^2	596
Sorption	≤ 32 µg/mm^3	29
Solubility	≤ 5 µg/mm^3	< 1
Residual Monomer	≤ 5.0 %	< 0.10 %

DANGER!

Contains Acrylate, Phosphine Oxides and Methacrylic monomer.
May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of damaging fertility.
Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing mists, vapors or spray.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves and eye protection.
IF exposed or concerned: Get medical attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
If eye irritation persists: Get medical attention.
Collect spillage.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

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