ArmaResin GINGIVA Instructions For Use

Introduction

The following instructions for use are for dental professionals who use **ArmaResin GINGIVA** resin as a material for dental 3D printing models. This instruction for use also provides information about safety and environmental aspects. In case more information is needed, contact the manufacturer.

ArmaResin products are integral to a comprehensive concept of 3D printable resin-based materials and should only be used in together with the recommended printers and recommended equipment, following the manufacturer's instructions.

Please be aware that the use of noncompliant devices may compromise the functionality of the restoration. The user bears sole responsibility for the accurate application, beyond the control of **ArmaResin**. **ArmaResin** disclaims any responsibility and liability for damages caused from misuse.

Intended Use

ArmaResin GINGIVA resin is light-cured, Methacrylate-Acrylate based resins used by a dentist or dental technician for the CAD/CAM manufacturing of gingivas with LCD/DLP 3D printers.

Contraindications

ArmaResin GINGIVA resin should not be used for purposes other than those indicated. Any deviation from these indications may have negative effects on the physical and/or chemical qualities of the resin and the biocompatibility of the end product.

Do not use the product in case of a known allergy to one or more ingredients.

In case of doubt, clarify and exclude a possible allergy with the help of a specific allergy test before using **ArmaResin GINGIVA** resin.

Safety Instructions

Precautions / Protection

It is essential that protective clothing be worn when handling this product. Safety goggles and nitrile gloves must be used. Further information on handling the product can be found in the material safety data sheet (MSDS). We cannot completely rule out adverse reactions (e. g. intolerance or allergies) to specific material components for all individuals. In such isolated cases, the user should discontinue use of the material.

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Hazard statements per MSDS

Hazard Pictograms

Signal word

Danger

Hazard statement(s)

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261 Avoid breathing mist / vapors / spray.

P264 Wash … thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves / protective clothing /eye protection / face protection.

P310 Immediately call a POISON CENTER /doctor/...

P321 Specific treatment (see … on this label).

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

P501 Dispose of contents/container to an approved waste disposal plant.

P302+P352 IF ON SKIN: Wash with soap and water.

P305+P351+P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Material Properties

Color	Pink	Layer thickness when printing	25-50-100-150 micron
Curing Time**	7 minute	Wavelength 3D-Printer	385 or 405 nm

**ArmaResin PowerCure

Requirements

Printers

- Asiga - All Printers
- Ackuretta – All Printers
- Shinning 3D – All Printers
- Rapidshape – All Printers
- Sprintray – All Printers

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All other open system printers; Microlay, Rayshape, Phrozen, Elegoo, Anycubic, Creality etc.

Software

Autodesk Netfabb, Composer, 3D Sprint, Rayware, DS Slicer, Alpha 3D, Chitubox, Lychee Slicer

Post Curing Unit

Suggested Curing Machines

- ArmaResin PowerCure
- Dentmate Prodex BL
- NK Optics – Otoflash
- Formlabs – Fabcure
- Shinning – Accucure
- Rapidshape – Cure

And all other curing machines.

Processing

The following instructions contain details of a validated workflow for the 3D printing process with a compatible 3D printer.

ArmaResin GINGIVA resin's ideal working temperature is in the temperature range between 5°C and 28 °C.

Before the first use, the material has to be shaken well about **2 min**. When decanting, make sure that the printing resin is exposed to daylight for as short a period of time as possible.

For further processing – selecting the resin, material parameter, setting up the print job – as part of the printing process, follow the respective printer instructions for use.

Cleaning and preparation for post-curing

Cleaning

Wash parts in at least 98% pure isopropyl alcohol (IPA) in a well-ventilated area.

Best results are achieved when using a pre and post wash.

- Pre-wash bath using an ultrasonic cleaning device: 1 minutes.

- Post-wash bath in IPA : 1 minutes.

Important: Ensure a dedicated IPA bath is used for washing **ArmaResin GINGIVA** parts. Do not wash in IPA that has previously been used for washing other materials. Allow parts to dry thoroughly before post-curing.

Precaution: The entire cleaning process should not take longer than 3 minutes as this could otherwise have a detrimental effect on the surface of printed objects (swelling or surface irregularities of the object with ethanol).

After cleaning, clean the supports from the parts. Leave the printed parts to be dried in room temperature.

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Post-Curing

1. After washing and drying, let the printed parts rest for at least 10 minutes to ensure that the printed parts are free of alcohol residue.

2. Place the printed parts in UV curing unit "**ArmaResin PowerCure**" for 7 minutes with the Power level 16 and Signaling level at 10.

3. If you use NK optics Otoflash, cure the resin 2000 flashes for both side. After first 2000 flashes, leave the material 2 min in room conditions to cool down. Then make the second 2000 flashes to the reverse side.

Post-curing is an UV-light treatment to ensure that **ArmaResin GINGIVA** printed parts obtain optimal polymer conversion. Through this the residual monomer is reduced to a minimum and the required mechanical properties are obtained. We advise use of the **ArmaResin PowerCure**. Place parts inside the **ArmaResin PowerCure** chamber on the support mesh, do not use a plastic tray inside the chamber. Inert gas is not required. Please see **ArmaResin PowerCure** user guide.

ArmaResin PowerCure is a curing machine which has 385 and 405 nm led lights at 90W power. So, 7 minutes at 90W curing is enough for **ArmaResin GINGIVA** resins.

Finishing

Remove any residual support structures and finish cured parts, if necessary, using conventional dental methods and instruments. Please use specialized rotary instruments for machining and polishing plastic materials. Make sure you do not exceed the maximum rotation speed as suggested by the instrument manufacturer, during finishing.

Storage Conditions, Expiry Date & Transport

Store the resin in the original packaging at room temperature in a dry, cool and dark area. Close the packaging after each use.

The expiry date of the product is mentioned on the product label along with the lot number.

Store on printer for up to 4 weeks with hood closed or store in bottle for up to 24 months in a cool dark place.

The product performance is no longer guaranteed once the expiry date is exceeded. Do not expose to UV-light.

Standard transport conditions apply to this product. There are no restrictions for transport related to hazardous substances.

Waste Disposal

ArmaResin GINGIVA resin in its polymerized form is not environmentally harmful thus can be disposed of in general waste. **ArmaResin GINGIVA** resin in its liquid state should be treated as chemical waste. Special disposal requirements are applicable, check with your local, federal, or other regulatory agencies for disposal requirements.

ADVICE: While disposing of resin in the waste state, it can be filled into a transparent locked plastic bag with a depth not exceeding 20 millimeters and cured for 15 minutes in a curing device with a light wavelength of 385-465nm in the and then can be disposed of as a polymerized product.

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Delivery Units

ArmaResin GINGIVA resins are available in 250 gr, 500gr and 1000 gr.

Label Symbols

	Manufacturer		Date of manufacture
	Batch code		Use by
	Catalogue number		Warning
	Protect from sunlight		Storage and transport Temperature
	CE Mark		Consult instructions for use

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