CopraLiSi Finish | CopraLiSi Connect

CE 0297

How to spray correctly? | Instructions for use

Instructions for use | **English**

Highly flammable

Keep safely

Health hazard

Classification according to RL 93/42/EWG annex IX, rule 5 **medical device class IIa**

Typification, classification, identification according to DIN EN ISO 6872 **dental ceramics type I, class 1a**

WHITEPEAKS
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Scope of application

CopraLiSi Finish | CopraLiSi Connect is a ready-to-use and easy-to-apply lithium silicate based glass ceramic for monolithic restorations made from zirconium oxide. In order to coat restorations made of zirconium oxide with **CopraLiSi Finish | CopraLiSi Connect** you do not require any special surface preparation, no adhesion promoter, no resolvents and no preparatory firing. Parts made of zirconium oxide should be kept clean and free from dust and grease to ensure consistent coating results. **CopraLiSi Finish | CopraLiSi Connect** is suitable for all zirconium oxides. Optimum results are particularly obtained by finishing high-translucent and coloured zirconium frameworks.

Working environment

Store CopraLiSi Finish | CopraLiSi Connect spray cans at room temperature (15 – 25°C). Too high to too low ambient temperatures are unfavourable. Use only in well ventilated rooms and use suitable exhaust systems to absorb the fine spray mist. Always wear a dust protection mask. Good lightening is also important for checking whether the restoration is completely covered by the spray.

General instructions for handling

CopraLiSi Finish | CopraLiSi Connect *is intended solely for use by trained and qualified personnel in dental laboratories.*

- **Do not inhale the spray**
- **Use a dust protection mask and a suitable exhaust System**
- **Intraoral applications are not permitted**
- **Follow the instructions in the safety data sheet**
- **The aerosol can is under pressure and must be protected from solar radiation and temperatures above 50°C.**
- **Keep away from sources of ignition.**
- **Use only in well ventilated areas**
- **Keep out of reach of children**
- **Always empty the aerosol can completely. Do not open with force or incinerate after use**
- **Do not spray into open flames (e.g. Bunsen burners) or onto any incandescent material**
- **Do not smoke**

Preparation of the restoration made of zirconium oxide

To achieve optimum surface results, the finished, fitted and sintered restoration made of zirconium oxide has to be dry, clean and free of dust and grease. For surface coating with **CopraLiSi Finish | CopraLiSi Connect** only a small amount of material has to be applied. The occlusal relief, crown margins and margin fittings will be barely effected by a singular application. To achieve optimum results the restoration should be milled in high quality with a finely shaped surface structure and a carefully chosen shade (colour gradient) before sintering the zirconium oxide. Functional and aesthetic characteristics such as occlusal surface, contact points, colour gradients and effects should already be considered in the zirconium oxide, especially for full anatomical monolithic restorations. For monoliths, a minimal reduction of the full anatomic structure is advisable. We recommend to apply **CopraLiSi Finish | CopraLiSi Connect** only after the dentist has fitted and eventually corrected the restoration.

Shaking the spray can

Step 1 Shake the spray can intensely to activate the spray composition before attaching the spray nozzle for the first time in order to mix the ceramic particles with the mixing liquid. The mixing balls are distinctly audible after just a few seconds, nevertheless continue to shake the spray can for at least 1 minute vigorously.

Step 2 Now remove the valve seal, attach the spray nozzle with the spray lance and shake again.

Step 3 The spray can is now ready for use. After short pauses in spraying the spray can should be shaken up with circular movements.

This procedure is mandatory and has to be strictly observed. Well prepared you will receive optimum spraying results and prevent the failure of nozzles, spray tubes and valve system. Never attach the spray nozzle first!

Indications

Surface conditioning for veneering framework: **CopraLiSi Connect** is applied lightly as a first coating onto the surface to be veneered and then fired according to the specifications for diffusion firing. In case the contact points of the burning aids on the inner coping, resp. the glue joints are too big, these areas have to be coated/ fired first, the external surfaces of the restoration afterwards. Thus prepared your restoration made of zirconium oxide is prepared perfectly for adhesive fixations and surface veneering of all kinds.

Paint-on colours and veneering CopraLiSi Finish is the universal colourless thin film veneer. It can be used alone or in combination with refractory paint-on colours and with some refractory ceramic materials as well. To individualise the restoration with paint-on colours, these have to be applied directly onto the first coat of **CopraLiSi**. After drying of the paint-on colours the restoration has to be over-sprayed thinly with **CopraLiSi Finish**, then the second firing takes place. After the second firing the surface should be shiny, non-porous and homogeneous.

Compatibility All **LiSi** spray products can be combined with each other as needed and also be fired together. e.g. you can spray the bond area with **CopraLiSi Connect**, then directly without cleaning apply **CopraLiSi Finish** onto the outer surfaces and fix directly with a firing.

Spraying

Test spraying Before the first use perform a spray test onto a small glass plate. In doing so test the correct distance to the object of between 15 – 20 cm. Short and small spray puffs achieve an optimum slurry application. Only use the included spray nozzle. Wet stains or runs are an indication of a too close distance or too much applied material.

Coating thickness The spraying should always be just as strong as needed to let the zirconium oxide surface gleam through the wet slurry. The carrier fluid airs out completely after a few seconds and leaves a light layer of white powder which adheres well to the surface and does not run. For a better control of the powder coating some product applications are equipped with a colour indicator.

Spraying techniques Hold the spray can as vertically as possible. Unlike "varnishing" it is advisable to apply **CopraLiSi Finish | CopraLiSi Connect** only in small short spray puffs. In this way only small amounts of powder will be dispersed. In this process the nozzle system cleans itself at the same time.

Cleaning and storage

Clean the spray nozzle immediately after use (e.g. by means of steam cleaner or ultrasonic bath) and dry with compressed air afterwards. Use up the spray can quickly after the first use. According to the state of the art loss of propellant gas is not totally unavoidable. If necessary check tightness of the can after use and blow out the valve holding the can upside down.

Ceramic baking
Carry out the ceramic baking according to the instructions (firing parameters) for **CopraLiSi Finish | CopraLiSi Connect**.

Diffusion baking
If applied optimally, a resilient, smooth and homogenous surface of highest quality with an optimal bond with the zirconium oxide is achieved already after the first firing.

Individualisation baking
At the second firing the hold times can be reduced to reduce the thermal stress of the paint-on colors.

Also observe the special recommendations for firing of the producers of your furnace. You can find compatible LiSi firing programs on the service pages of the furnace producers.

Alternative firing recommendation
For older ceramic furnaces we have included a simplified firing program, which has been well-tried by many clients.

Troubleshooting

Wrongly sprayed parts can easily be washed with water or steamed off. Dry the steamed off surface with compressed air and directly spray it again. Any small pores in the surface after baking are often related to a too thin layer of slurry. The solution: Simply spray the areas a second time without additional treatment of the surface and repeat the ceramic baking.

Check the firing parameters. The same applies if marks of the milling process show up on the surface after the first baking.

Please pay attention to the instructions on the label of the spray cans.

Pressurized container: Protect from sunlight and temperatures above 50°C. Do not open with force or incinerate even after use. Do not spray on naked flame or any incandescent material. Repeated exposure may cause skin dryness or cracking. Keep out of the reach of children. If swallowed, seek medical advice immediately and show this container or label.

Burning recommendations | Depending on the ceramics used and the veneering systems or stains used by the users, various fire guides have proven their worth in laboratory practice. The two-stage fire control requires appropriate furnace controls as well as controllable vacuum. The alternative fire recommendation without vacuum therefore applies to older furnace models.

1st BAKING | DIFFUSION BAKING - Creates the LiSi Bonding Compound on Zirconium Oxide

CLOSURE TIME	STAND-BY TEMP.	HEATING RATE	FIRING TEMP.	HOLD TIME	HEATING RATE	FIRING TEMP.	HOLD TIME	SLOW COOLING	COOLING RATE	VACUUM
min	°C	°C/min	°C	min	°C/min	°C	min	°C/min	20 … 80°C/min	>400°C
1	400	40	820	3	20	920 ± 10°C	3	YES	According to size	0 – 25%

2nd BAKING | INDIVIDUALISATION BAKING

CLOSURE TIME	STAND-BY TEMP.	HEATING RATE	FIRING TEMP.	HOLD TIME	HEATING RATE	FIRING TEMP.	HOLD TIME	SLOW COOLING	COOLING RATE	VACUUM
min	°C	°C/min	°C	min	°C/min	°C	min	°C/min	20 … 80°C/min	>400°C
1	400	•	•	•	50	920 ± 10°C	2-1	Yes	According to size	0 – 25%

ALTERNATIVE BAKING

CLOSURE TIME	STAND-BY TEMP.	HEATING RATE	FIRING TEMP.	HOLD TIME	HEATING RATE	FIRING TEMP.	HOLD TIME	SLOW COOLING	COOLING RATE	VACUUM
min	°C	°C/min	°C	min	°C/min	°C	min	°C/min	20 … 80°C/min	•
1	400	50	920 ± 10°C	3	•	•	3	Yes	According to size	•