

Product Information

SurACer® 4497-1 Scratch-resistant and Climate-stable Coating Resin

Information Guide



SurACer® 4497-1 RoHS coating resin is compliant in accordance with EU Directive 2011/65/ EC. All starting substances have been pre-registered according to the REACH Regulation (EC) No. 1907/2006.

The following instructions are a guide to the proper processing and application of **SurACer® 4497-1**.

1. General

This instruction guide will ensure the proper use of the **SurACer® 4497-1** and prevent eventual mistakes, which can lead to quality insufficiencies or adverse effects.

SurACer® 4497-1 is a one-component and solvent-free scratch-resistant coating resin based on epoxy resin. The coating material can produce under UVA irradiation transparent protective coatings for screen- and pad printing, as also inject and transfer prints on plastics, metals, glass and ceramics.

SurACer® 4497-1 resin guarantees the production of coatings with excellent properties, such as

- extremely high scratch-resistance
- non-toxic constituents
- very good adhesion
- excellent climate stability
- excellent processibility



The **SurACer® 4497-1** coating material is available in special containers of 100, 250, 500 and 1000 ml as well as in 5 and 10 liter cans.



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2. Surface Preparation

The surfaces to be coated need to be cleaned with ethanol or isopropanol, if possible. It is of high advantage to improve the adhesion of **SurACer® 4497-1** coating resin, using pyrolytic coating surface pretreatments with the SurASil process.

3. Processing

The application of **SurACer® 4497-1** can be performed with the use of suitable coating techniques, such as brushing, spin-coating, as also by manual or automatic dispensing. The coating resin can achieve a better flow by heating it or, alternatively the surface to be coated. During application is direct sunlight to be avoided.

The application of layer-thicknesses between 0.5 – 1.0 mm achieve an optimum result, as far as material properties are concerned.

4. Stability and Storage

SurACer® 4497-1 is durable for at least 6 months, if stored under refrigeration and with light excluded. That is, the coating resin can be processed for at least 6 months under the specified storage conditions. The product must obtain room temperature before use. Applications are also after the expiration date possible, however, in this case without a warranty.

For information on hazards, safety-related identifications, precautions and transport consult the product-specification safety manual included.

5. Curing

The curing of the **SurACer® 4497-1** is performed under UV-light irradiation. The hardening process under UVA light illumination takes between 8 to 10 min. with an energy between 3 and 6 J / cm². This time-period depends on the surface area and height of the coating and must be determined experimentally before proceeding to mass production. The curing parameters are listed in the product information sheets supplied with the SurALux light curing boxes. After UVA irradiation, the final hardness of the **SurACer® 4497-1** scratch-resistant coating is achieved only after a post-cure of at least 24 hours at room temperature.

In order to avoid evtl. ripple phenomena after the curing of the **SurACer® 4497**, the light-curing box shall proceed an initial irradiation cycle of 2-3 minutes, included the baking paper wouthout material, in order to slightly raise its temperature.

The product is stackable after its UV curing and can be either transported or used. The post-curing process occurs at room temperature. This time can be reduced by increasing the temperature at 40 to 60 °C.

For the achievement of the material properties specified by the manufacturer, it is absolutely necessary to use the SurALux light-curing box technology, developed exclusively for this purpose.



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6. Technical Information

Technical Characteristics of the Lacquer	
Appearance	Viscous, colorless, transparent liquid
Density	1.16 g/cm ³
Odor	Odorless
Viscosity according to DIN 53019	135 mPas (20 °C)
Solubility	In all common organic solvents

Technical Characteristics of the Coating	
Appearance	Colorless, hard decorative protective layer
Cross-cut Rating (DIN 53151)	Gt. 0
Adhesion in accordance to DIN 53283	40 - 50 MPa
Hardness after post-cure (hardness testing model 318)	13 - 14 N
Environment test (VDA-Test, 160 hrs.)	No infiltration, detachment or discoloration of the coating layer

For eventual questions or doubts concerning your product, we encourage you to get in touch with SurA Chemicals GmbH.

The technical consultation given by SurA Chemicals GmbH, verbally or written, is based on the company's best knowledge and shall only be considered as non-binding advice, also in respect of the protected rights of third parties. The company's technical consultation does not release the customer from own examination concerning the suitability and usability of the company's product. The manufacturer's liability extends solely to the value of the products supplied by SurA Chemicals GmbH and applied by the customer.

SurA Chemicals GmbH guarantees its products to be of perfect quality as stated in its general terms and conditions of sale and delivery.



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