

## KERASYS LC

The light curing repair system for sanitary ceramics and porcellain – fast, easy and cost-effective



**Kulzer:**

# KERASYS LC

You create your products to convince your customer with quality and design. Your brand stays for image and trust. To achieve this features you take a high effort in all divisions of your company.

We will show you a method to decrease a part of this cost with a simple method ... **The Kerasys LC system!**

The Kerasys LC system has formed an integral part of the production processes of many well-known sanitary ceramics manufacturers across the world for more than a decade and significantly contributes to lowering product reject rates thanks to the ease with which it can be applied and thanks to its competitive price. In addition to being used in the ceramics industry, Kerasys LC is also used by many restorers and porcelain manufacturers.

## What is Kerasys LC?

Kerasys LC is a light curing repair system for sanitary ceramics and porcelain, developed by Heraeus Kulzer, one of the leading global providers of high-performance, light curing composites.

Kerasys LC is used to repair defects such as bubbles or lumps created during manufacture, and minor damage incurred during storage, transportation and assembly, achieving excellent results and making the former damage nearly invisible.



for perfect surfaces

The light curing repair system for sanitary ceramics and porcelain  
KERASYS LC costsaving aspect

fast

easy

cost-effective



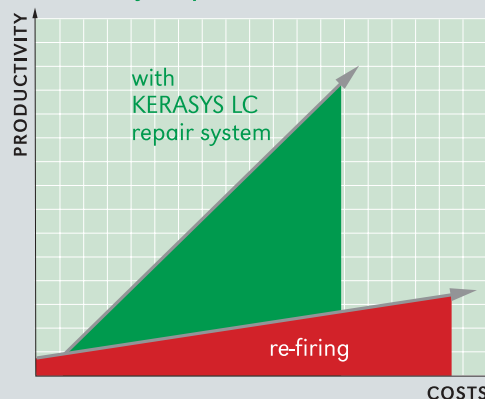
## Why to use Kerasys LC? The cost-saving aspect!

Kerasys LC is a "must" in terms of microeconomics, and combines cost reduction with increases in quality!

- Increases productivity
- Does not require additional investments or personnel
- Increases production capacities and does not require a second firing
- Reduces reject-rate -> reduced disposal costs
- Significantly increases product quality



## Increase your profit with KERASYS LC!



# KERASYS LC COMPONENTS

## THE COMPONENTS

All components of the KERASYS LC system are manufactured according to the high quality level of Heraeus Kulzer. This guarantees perfect results and efficiency.



## 1 TECHNOVIT 2500 LC COLOURS

Light curing, inorganic filled composite in ceramics colour in middle viscosity, for nearly invisible repair of surface damage up to 2 mm deep. Cures in 40 seconds under blue light. Colour can be matched to suit individual requirements!

## 2 TECHNOVIT 2500 LC CLEAR FILLER

High viscosity, transparent resin for filling surface damage up to 10 mm deep, for use as an underfilling or for repairing unglazed component parts. Cures within 20 seconds under blue light.



## 3 K1 GRINDER

Grinder specifically designed for grinding ceramic surfaces. For grinding surfaces with pinholes, cracks or soot particles. The grinder is used by applying slight pressure and operates in short cycles at speeds of 2000 -3000 rpm.



## 4 SILICO GRINDER

A special silicone grinder for grinding the surfaces of areas that require repair – operates at speeds of 2000-3000 rpm. The surface hardness of the Silico has been chosen to ensure that only Technovit resin – but not the ceramic surface – is removed. Silico must be ground into shape with the "Trimmer" before first use.



## 6 TRANSLUX CU/ PEKALUX

Blue light device with a wavelength range of 400-500 nm for curing the Technovit resins. The units are equipped with a voltage rectifier. Exposure time is monitored through an acoustic signal every 20 seconds (Translux CU) or curing time can be adjusted on the handpiece and switches off automatically once the set time has elapsed (Pekalux).

## THE KERASYS LC COMPONENTS



## 5 PRIMER RC

One-phase primer used to chemically bond polymers to ceramics. The Primer RC prevents gaps from forming between the ceramics and the repair material, and significantly increases the quality of the repair. To achieve the best resistance against dust, water and temperature variations, it is generally recommended applying Primer RC for all repairs. Always necessary in areas that are constantly exposed to moisture.

## 7 INSULATING GEL

Gel which has to be applied before light curing to cover areas that were repaired by using filler. The Insulating Gel is used to exclude oxygen during polymerisation, to increase surface hardness and to achieve a mirror finish.

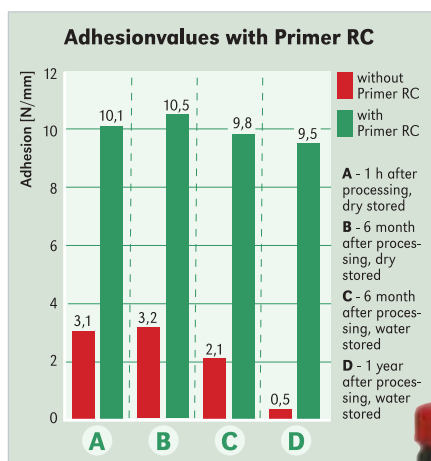


## 8 PLASMACOAT INSTRUMENT

Tool used for modelling Technovit repair resins with different shaped ends and an ergonomic handle for optimum ease of application. The Plasmacoat is coated with a special coating to prevent Technovit resins from sticking to it.

## 9 DIAFIX POLISHER

Felt polisher with diamond wax for mirror polishing repaired or dull areas on ceramic surfaces.



# APPLICATION

easy to use

perfect results



## A - CLEANING

- The K1 drill is clamped into a grinder and is used to drill out the damage by applying slight pressure (fig. 1) and working in short cycles at speeds of 2000-3000 rpm. Alternatively, a pneumatic hammer can also be used to remove the damaged parts
- The defect must be drilled out until the damaged ceramic or dirt particles have been completely removed
- It must be ensured that the damaged area is free from dust and grease before per forming the subsequent repair steps

**Advice:** Always use the drill at low speeds, high speeds can create scorch marks at the edge of the damaged area which will be visible later on

## B - PREPARATION

- remove RC Primer from the bottle (fig. 2) and brush a thin coat of primer onto the damaged area
- Take care, that the brush is always clean
- Leave to dry for 30-60 seconds



## C - APPLYING THE TECHNOVIT RESIN

### One layer technique

- Remove the appropriate quantity of Technovit 2500 resin from the syringe (close syringe again immediately) with the Plasma-coat tool (fig. 3)
- Apply the Technovit 2500 resin to the damaged area (height 1-2 mm).
- Work from the centre to the outside to prevent air from becoming locked inside the resin.
- Form a smooth surface with the Plasma-coat tool
- cover the area with Insulating Gel (fig. 4)
- Polymerize with the Translux CU or the Pekalux for 40 seconds to cure the material. (fig. 6)
- After polymerization, remove the Insulating Gel with a soft cloth after polymerisation.

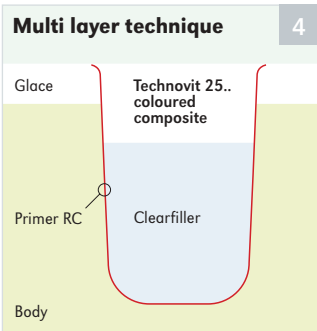
### Multi layer technique

If the damage penetrates deeper than 2 mm, a layer of Technovit 2500 LC Clearfiller is used to fill the cavity 1-2 mm below the ceramic surface. (fig. 4)

- Remove the appropriate quantity of Technovit 2500 LC Clearfiller from the syringe (close syringe again immediately) with the Plasma-coat tool
- Apply the Technovit 2500 LC Clearfiller into the damaged area (height up to 10 mm)
- Work from the centre to the outside to prevent air from becoming locked inside the resin
- polymerize for 20 seconds without Insulating Gel
- continue using the one layer technique

**Advice:** The Insulating Gel ensures optimum surface hardness – without, it will be difficult to polish the area and means that the repair remains visible. So final polymerization must always be done by using the Insulating Gel in order to obtain a high gloss and dirt resistant finish.

**Advice:** The filler is also suitable for repairing unglazed parts when used in conjunction with RC Primer. Technovit 2500 Clearfiller can be polymerized up to 10 mm in 20 seconds!



## D - FINISH THE REPAIR

- The Silico is clamped into a grinder and shaped (fig. 7) before first use to smooth sharp edges and give them an ergonomic finish
- The repaired ceramic surface is ground smooth with the Silico grinder with slight pressure and speeds of 2000-3000 rpm (fig. 8)
- Once the area has been smoothed, it is polished with the Diafix polisher (fig. 9) to achieve a high-gloss finish (3000-4000 rpm)



cleaning-preparation-filling-polishing



# ADVANTAGES

# COLOURS

## Kerasys LC – Keep it fast and easy

One System with many advantages. The idea of developing was to realize the objective of devising a system that enables a number of problems to be solved simultaneously by applying one simple method.



### An overview of the most important Kerasys LC system features and advantages

- Low material and processing costs
- Efficient – objects with multiple damage can be repaired using one repair process
- Can be supplied in a wide range of colours – guaranteed to reproduce your specific colour
- Free colour and finish measurements
- Easy to apply – no prior knowledge required
- Unlimited processing time, fast curing time
- One-component material (coloured and ready to use) – no mixing required
- Safe, non-toxic, cures under blue light (no UV light)
- Does not leave any gaps thanks to the one-component Primer RC bonding agent
- Suitable for deep cavities and areas that are constantly damp
- Material can be stored for more than 5 years
- Colour fast for 10 years and resistant to temperatures of up to 140°C
- Wide range of standard colours
- Lye, acid and cleaning agent resistant

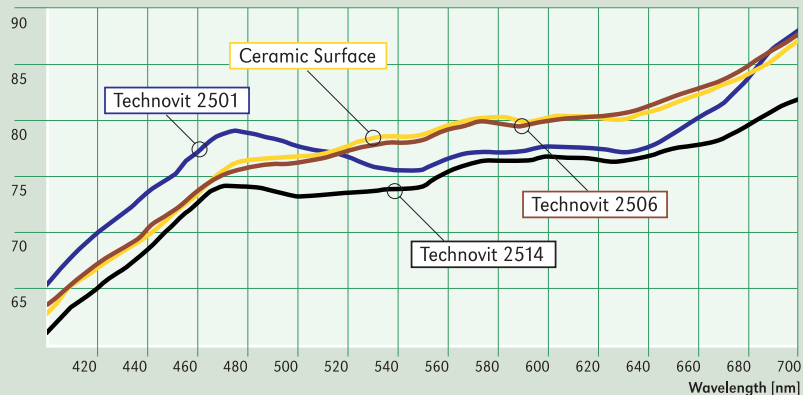
**KERASYS LC – for perfect results!**

- More than 100 standard colours available.
- Our special customer service: Individual shade matching!



### Spectrum line – comparison of shades

Comparison between the ceramic standard tile and several Technovit 25xx colours



### Our special customer service – the colour matching

The repairs performed with Kerasys LC should have the same demand of high quality as you expect from your products. The basic of this philosophie is, that the colour of the repairmaterial comes very close to the colour of the ceramic objects. Heraeus Kulzer perform FREE measurements of colour and glaze in our own R&D laboratories to chose the right colour for your object out of more than 100 standard colours.

For the colour-check, please send a sample tile of your ceramic colour with a flat surface in square of 50 x 50 mm to our service adress:

Heraeus Kulzer GmbH & Co. KG  
Kerasys LC  
Philipp-Reis-Straße 8/13  
61273 Wehrheim (Germany)

If we cannot offer a standard colour, we can provide an individual colour matching service for corresponding purchase quantities.



**MORE THAN 100 STANDARD COLOURS**

**Please note for individual shadematching:** The more even the surface of your sample tile, the more accurate the colour measurement!

We perform all measurement and developments in our own laboratories. This means that we are able to provide solutions to customer specific requirements fast and efficiently. **Get in touch!**

# KERASYS SANITARY KIT

Heraeus



## INCREASE YOUR SERVICE

For all application which are not included in a industrial process we offer a complete sortiment with all necessary components and 12 standard colours. "The KERASYS LC Sanitary Kit".

For:

- restorers
- service business
- starter kit
- wholesalers



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**Kulzer:**