

COLORIT®

Instructions of use



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1. The system

Colorit® is an integrated system for high-quality colouring of surfaces. Colorit® is based on principles of the light hardening material technology and is suitable for production of small-sized and medium-sized jewellery.

Colorit® can be used easily and efficiently:

After cleaning and preparation of the space to be coloured and after application of a Link layer Colorit® colours can be easily applied to a workpiece by using Heimerle + Meule application instruments and hardened with Heimerle + Meule light units. Afterwards surfaces coated with Colorit® can be processed further mechanically.

Colorit® is made for usage in studios and manufacturing companies but it is also suitable for industrial applications.

2. Material

2.1 Material technology

Polymer ceramic

Colorit® is based on ceramic compound material technology.

With this basic technology individual, covering colour designs with convincing purity and high surface quality can be achieved.

Advantages:

- Individual, fine design effects with thin layers from approximately 0,2 µ
- Hard, shock- and wear-resistant surfaces
- Scratch-resistant surfaces
- Easy processing
- All colours can be mixed with each other
- Well polishable with long lasting shine

3. Application

3.1 Preparatio

Step 1: Clean surface

Dust and moisture affect processing of Colorit® negatively. Make sure that surfaces to be coated and tools to be used are dry, clean and free of grease. This can be done galvanically by using an electrolytic degreasing or by using alcohol.

Step 2: Sand blasting / Under-cut

In order to make Colorit® colours stick better to surfaces it is suitable to sand blast a surface to be coated with Colorit® - if possible .

Metal surfaces should be sand-blasted with corundum of 150 µ to 250 µ at a pressure amounting 4-6 bar. Before coating large surfaces under-cuts should be made first.

Step 3: Creating a compound

Apply a Link layer to the surface to be coated and let it dry for approximately 60 to 120 seconds. Afterwards apply a Bond layer. Then let the Bond layer dry/harden for 60 to 120 seconds under blue UV light. These two components create a system compound. Link is the activator for all precious and non-precious metals, Bond is the glue for creating a compound and elasticity for Colorit® layers.

3.2 Coating

Step 1:

Colorit® colours which have been made more liquid by using a hotplate and which have been mixed without air bubbles or rests of air within the colours can afterwards be applied to the desired workpieces by creating thin colour layers by using suitable instruments like the ones Heimerle + Meule supplies.

Step 2:

Harden the colour for approximately 60 seconds by using suitable UV equipment like the one Heimerle + Meule supplies.

Now further layers can be applied in the same manner as described above until the desired colour shade has been achieved. In this case Link and Bond must not be used again on top of the last Colorit® colour but the following colour can be coated directly onto the previous Colorit® colour without any intermediate layer of Link or Bond.

Recommendation:

After the final hardening step of the last Colorit® colour a greasy layer stays on the Colorit® surface. This layer can be finally hardened under blue UV light in a warm, thin glycerine layer. Alternatively these greasy layers can be removed by polishing them with red rouge. Further mechanical processing like final polishing etc. of the Colorit® layers should be done according to treatments which are suitable for the basic material of the workpiece.

3.3 Post-treatment

Step 1:

Grind Colorit® layers or turn it at high rounds per minute.

Step 2:

Polish Colorit® layers as usually.

4. Further processing

4.1 Galvanic coatings

Exposed lying metallic parts can be treated galvanically even if Colorit® colours have already been applied.

4.2 Removing

Removing Colorit® layers is possible at any stage of production processes.

Not hardened Colorit® layers/greasy Colorit® layers:

-> Removing by spirit

Hardened Colorit® layers:

-> Milling or burning them at 300-380°C

5. System overview

5.1 Basic components

1 x Colorit® PhotoPolyStation XS
 1 x Colorit® Application instrument
 1 x Colorit® Hotplate
 1 x Colorit® Glass mixing plate
 1 x Colorit® Disposable brushes
 1 x Colorit® Ring holder
 1 x Colorit® Instrument holder
 1 x Colorit® Light protection cover

1 x Novoit Bond
 1 x Novorit Link

(or Colorit® Bonder instead of NOVORIT Link and NOVORIT Bond)

1 x Colorit® Basic Clear	Small glass bottle, 5 g
1 x Colorit® Deep Yellow	Small glass bottle, 5 g
1 x Colorit® Deep Green	Small glass bottle, 5 g
1 x Colorit® Deep Red	Small glass bottle, 5 g
1 x Colorit® Deep Blue	Small glass bottle, 5 g
1 x Colorit® Deep Black	Small glass bottle, 5 g
1 x Colorit® Neon Red	Small glass bottle, 5 g
1 x Colorit® Basic White	Small glass bottle, 5 g
1 x Colorit® Case	

5.2 System components

Colorit®

Light hardening polymer ceramic - available in 40 different variations of colours and materials.

Colorit® Primer

Suitable for activation if certain basic materials, mostly used for glass surfaces.

Novorit Link

Required for activation of metallic basic materials to be coated with Colorit®.

Novorit Bond

Required for chemical compound between Colorit® and surfaces to be coated.

Colorit® Bonder

Combination of Primer and Bond, either use Novorit Link and Novorit Bond or only Colorit® Bonder for creating a compounds between basic materials and Colorit® colours.

Colorit® Instrument holder

Suitable for comfortable storage of application instruments.

Colorit® Glass mixing plate

Suitable for easy and individual colour mixing.

Colorit® Hotplate

Recommend for preparation of Colorit® colours.

5.3 Colorit® Blue-light units

Colorit® PhotoPolyStation XS:

Blue-light source, hand-held halogen curing unit suitable for temporary hardening of Colorit® materials

Colorit® PhotoPolyStation XL:

Blue-light „oven“ for efficient hardening of Colorit® materials for smaller series production

Colorit® Lightcube 1:

Blue-light „oven“ for more efficient hardening of Colorit® materials. Suitable for series production

Colorit® Lightcube 2:

Blue-light „oven“ for more efficient hardening of Colorit® materials. Suitable for series production

Colorit® SPEED:

Flexible blue-light source for very efficient hardening of Colorit® materials. Suitable for mass production

6. Storage

Colorit® colours should be stored LIGHT PROTECTED at 15-28°C.
For storage of larger quantities stocking at 4-8°C is recommended!

Advices:

After taking certain quantities from your fridge for processing always let Colorit® materials heat up to room temperature before using them.

Colorit® materials can be used for processing up to 2 years after dates of their production if they are stocked in a fridge - provided that no sun light or other blue UV-light sources can reach them.

Colorit® materials which are stocked at room temperature can be used at least 1 year after their dates of production - provided that no sun light or other blue UV-light sources can reach them.

After expiry dates have been reached Colorit® materials should not be used any more.

Pay attention to storage advices stated on Colorit® bottle labels and packagings.

Make sure that no children can reach them.

7. Trouble-shooting

Problem	Cause of problem	Solution of problem
<p>After curing Colorit® colours surfaces stay wet</p> <p>Polishing of Colorit® layers does not work well</p>	<p>Characteristic of Colorit®: Surfaces of cured Colorit® colours stay wet, a wet film of Colorit® colour stays on top</p> <p>Colorit® layers cannot be polished after the wet Colorit® film of the top layer has been removed. Layers become grey and stay dull</p>	<p>The wet Colorit® film can be removed by using alcohol. Afterwards Colorit® surfaces are dull. If you want to apply additional Colorit® layers you should not remove this wet film because compound between several Colorit® layers is stronger by applying the next Colorit® layer on top of the wet Colorit® film of the previous layer. Always remove the last wet Colorit® film only.</p> <p>Colorit® surfaces must be grinded before polishing works well. Suitable grinding media (for plastic and lacquer): medium, fine, very fine</p>
<p>Mechanical rework e.g. lathe tooling or milling does not work well</p>	<p>Colorit® layers burst, break, crack when doing mechanical rework</p>	<p>Turn Colorit® surfaces with high rounds per minute, use a sharp tool, cool it with alcohol if required</p>
<p>High polishing does not work well</p>	<p>Colorit® surfaces become grey, dull, cloudy, not steadily shiny</p>	<p>See "Mechanical rework". Rounds per minute: 3000. Use greasy polishing paste. Pre-polishing then high polishing</p>
<p>Wet Colorit® films in certain spots of your workpiece cannot be removed and cannot be polished</p>	<p>Colorit® is applied in spots of your workpieces which can hardly be reached and therefore neither the wet Colorit® film can be removed nor these spots can be polished</p>	<p>The wet Colorit® film can be cured in a glass filled with Colorit® Tighter at 60°C. Dip your workpieces thoroughly into the hot Colorit® Tighter and cure it at the same time for 2 minutes with blue light</p>
<p>Colorit® coated workpieces must be electroplated</p>	<p>Due to mechanical rework and polishing electroplated layers have been removed</p>	<p>Colorit® surfaces are resistant against all usual electroplating baths and are heat-resistant up to approximately 100°C so parts coated with Colorit® can usually be electroplated without problems</p>

Problem	Cause of problem	Solution of problem
Polishing in polishing drums does not work well	Surface is not polished steadily	See "Mechanical rework". Grind it wet in 1 or 2 steps then grind it dry in 2 steps.
No mechanical compound, delamination of Colorit® although workpiece is degreased	Colorit® compound problem, mechanical problem (e.g. surface to be coated is too smooth due to well bonding)	Sandblast with corundum 150-250 my. Make Under-cuts* and Anchor-drill-holes**
No mechanical compound, delamination of Colorit® although workpiece is degreased Mixing individual Colorit® colours: Bubbles in Colorit® colours	Colorit® compound problem, chemical problem When mixing Colorit® colours at room temperature colours are not liquid enough to receive homogenous mixed colours. There are in most cases air bubbles within the mixed colours resulting unsteady colour layers or bubbles when curing colours	Apply Bonder. Let it dry for 1 minute. Afterwards cure it with blue light for 1-2 minutes OR Apply Link. Let it dry for 1 minute. Apply Bond and cure with blue light for 1-2 minutes. Heat up Colorit® colours to 40-60°C, then carefully mix Colorit® colours on the Colorit® Glass mixing plate or in the original bottle it is delivered in
Colorit® Deep colours can hardly be cured or not at all	Too thick layers of Colorit® Deep colours applied	Apply layer thicknesses amounting maximum 0.2 mm of Colorit® Deep colours or mix them with Colorit® Basic Clear or Colorit® Hi Clear in order to clear up the colours
Colorit® Basic colours can hardly be cured or not at all	Too thick layers of Colorit® Basic colours applied	Apply layer thicknesses amounting maximum 0.8 mm of Colorit® Basic colours or apply several thin layers instead of one thick layer and cure each one separately before applying the next layer

General advice:

Before you start applying Colorit® colours you should always make trial coatings with workpieces you have not coated with Colorit® before in order to find out which layer thicknesses are required with these workpieces. Degrees of compound and hardening depths are in most cases differing from part to part.

***Under-cut:**

If you fill Colorit® materials into a WIDE deepening of a workpiece it can be that if your Colorit® coated workpiece is being hit hard by for example falling down from a certain height onto a hard surface the complete Colorit® colour filling is being pulled out of the workpiece and gets loose. If you prepare such a WIDE deepening of a workpiece with an Under-cut the Colorit® filling has a better compound with the deepening and will become even more shock-resistant. For this purpose you must widen the bottom walls of a deepening by cutting a thin channel into the bottom corners of the deepening. When Colorit® materials are then being filled into such a deepening the Colorit® materials which have been distributed in the thin channel tightly hold the complete Colorit® material filling inside the deepening more reliably.

****Anchor-drill-holes:**

If you fill Colorit® materials into a WIDE deepening of a workpiece it can be that if your Colorit® coated workpiece is being hit hard by for example falling down from a certain height onto a hard surface the complete Colorit® colour filling is being pulled out of the workpiece and gets loose. If you prepare such a WIDE deepening of a workpiece with anchor-drill-holes the Colorit® filling has a better compound with the deepening and will become even more shock-resistant. For this purpose you should drill 1 or more holes into wide deepenings of workpieces where Colorit® can flow into and make the Colorit® filling even more shock-resistant.

The details of our product and processes are based on intensive research and technical experience.

We impart this information in good faith and reserve the right to make technical changes in the course of product development.

Our technical service team of Heimerle + Meule is available at any time to respond to additional queries or to offer expert advice.

This in no way excludes the user from reading the instructions provided before using the product at his own risk.