Vivacolor

PROCESSING INSTRUCTIONS

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Quick Guide

Vivacolor is a common optimization of the market well-known light-curing color systems on acrylic resin basis. By accurate advancement and the implementation of specified goals **Vivacolor** grew to a trailblazing system within the range of surface coating with decorative, as well as functional color inserts. Aesthetics in close connection with functionality and optical priority are tags for a not everyday color system. It is used in Watches and jewelry parts for the effective increase of opportunities particularly in decorative designs, logos and signatures. Furthermore it can be applied as repair material of enamel and broken out places. Application on all metals and stick able plastics without heat stress of the substrate is possible.

The processing is highly simplified by the new formulation and the innovative materials and the hardening is accelerated, whereby the final quality is affected positively. Our focus is to create maximum possibilities with few components. So for economic storage and cost reduction the entire range of applications can be managed with only a few colors.

The hardening of the colors with blue light (wavelength of 450 – 480 nm) is safe and economical, no UV-radiation is released and no thermal stress occurs on the parts be in process, which reduces or avoids the risk of deformation and tension in valuable objects. In addition an assortment of inexpensive modern devices is available, which are equipped with LED or halogen light. These are convincing by their outstanding performance, which has a positive effect mainly through the short curing times.

The Vivacolor Pure colors harden with usual market devices up to layer thickness of 2/10 mm. By diluting the colors with **Vivacolor Pure Hi-Transparent** (Art. No. 8002.010) the hardening depth is, in relation to the quantity, clearly increased. Possibly light devices of older method or construction need a higher curing time through a lower light efficiency and the hardening depth is as well reduced.

It should be noted that before starting work all the colors must mixed carefully to obtain uniform color intensity. In order to remove blisters from the applied color, the surface can be flamed shortly with a lighter. This is also particularly recommended, if colors are mixed to your own requirements.

In order to avoid an unwanted hardening the colors must be protected generally against day and artificial light. The especially developed light protection box protects your colors in the opened can and during the processing until the desired hardening by the light device. Thus quality and final characteristics can be guaranteed. By uncontrolled hardening partial polymerization may happen but however, only in the rarest cases a 100% hardening would occur and thereby hardness, durability and polishability get influenced. The finishing of the surface will be achieved through lathing, milling, grinding and polishing. By lathing the surface first of all the height must be gently leveled then thin layers can be removed until the desired result is reached. The following grinding process is started with rough sandpaper and then continued with finer and finer paper. So the grinding marks are as low as possible. Only after a perfect grinding a perfect polishing is possible. May, for reasons of surface properties polishing of the applied colors is not possible a completely hardening can be achieved by treatment with glycerin. For this the whole item must be dipped in glycerin and then hardened by the light device. At the same time the usually remaining smear layer – the inhibited layer – is also hardened. The surface may not be touched if it is to shine spotlessly. The hardening time corresponds to the regular hardening.

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Step by Step

Mechanical preparation

The more structure the surface has the better the adhesion strength is. The following surface properties improve the adhesive strength:

- Sandblasting
- Manuel roughening
- Brushing
- Grinding

In general, undercuts give the **Vivacolor** coating more grip.

Chemical preparation

Vivacolor does not stick to materials naturally; it needs to be bonded to surfaces. The procedure is as follows:

1. Surface must be cleaned with ultrasonic degreasing, electrolytic degreasing or alcohol

For all metallic surfaces:

2. Apply **Vivacolor Link** (Art. No. 8950.0001) in a thin layer

Let it dry for a few seconds (30 – 60 sec)

3. Apply **Vivacolor Bond** (Art. No. 8951.0001), surface must be wetted
4. Bond must be hardened with blue-light (1 – 3 min). Distance from light source to surface as low as possible and not more than 1 cm

For all non-metallic (organic) materials
Only step 4. “Apply bond” and step 5. “Harden with blue-light” is necessary

After that **Vivacolor** can be deposited.

Preparing and application of the Vivcolor colors

Over time, the color pigments settle on the bottom of the can and must be stirred up before using the color. Therefore the **Application tool** (Art. No. 8500.0001) can be used. Stir in round movements thoroughly and carefully. Several blisters can appear on the surface; these must be removed by flaming the surface with a lighter. The same applies for mixing special colors.

Construction and hardening of the color layer

If the colors are prepared well, they can be applied thinly. For the following hardening process the distance of the light device to the surface should be as thin as possible and not more than 1 cm. If hardening is not possible, the layer thickness must be reduced or **Vivacolor Pure Hi-Transparent** (Art. No. VC8002.010) must be added to the color. In this way the transparency of the colors can also be controlled. After each application (it is possible to deposit several layers) the new color layer must be hardened for 1 – 3 minutes. With the help of a needle it can be proofed if the layer is completely cured. The final hardening should be carried out 3 – 5 minutes. On large surfaces hardening in a light oven is a great advantage. Use therefore the **Viva-Light-Cube** (Art. No. 8802.0001). Only then a uniform quality can be ensured.

Post processing - Cleaning, grinding and polishing of the surface

First the smear layer must be removed with ethanol. After this treat the surface with sandpaper until the erosion dusts. The grinding processes should be thoroughly continued to the finest grain. Suitable gradation: 400/600/800/1000/1200 grain. Important, do not begin too rough because otherwise the grinding marks will be visible up to the end. Now, as a final step the surface can be polished.

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Alternative processing:
If the final hardening is done in glycerin it forms no smear layer and the grinding process would be unnecessarily. Proceed as follows:

- The **Vivacolor** surface should be hardened but not be touched with fingers
- Warm up glycerin to 35 - 40°C in a beaker
- Set up the light device so that the complete surface in the beaker can be hardened
- Hold the piece with tweezers
- Dip in glycerin (complete surface must be dipped in)
- Then start the final hardening process and expose the part for 1 – 3 minutes (depends on dimensions and color)

Glossary

Glycerin

Use Glycerin oil, as pure as possible, with a maximum water content of 10%. This may not be exceeded; otherwise the gloss of the surface is impaired. Glycerin is used as medium for the final hardening process of the surface under oxygen exclusion (dipping process).

Heating Plate

The **Heating Plate** (Art. No. VM8800.0001) is used to warm up the colors to 35 – 60°C in the can. So they can be mixed easily and blister free. In the corresponding **Glass-Mixing-Plate** (Art. No. 8504.0001), which can be installed on the top of the **Heating Plate**, small amounts of different colors can be mixed (maximum 0,5 g per hollow).

Sandpaper

Use only sandpaper in good quality for the grinding process because the final result is significantly influenced by it.

Smear layer (inhibited layer)

The smear layer is a liquid film on the color surface which is caused by the contact of the colors with oxygen during the hardening process. This liquid film can be removed by washing off with ethanol. If the final hardening process is done in glycerin the smear layer must not be removed because the glycerin kept away the oxygen from the surface.

Do you have any questions?

Please contact us at vivacolor@jentner.de

Do you want to order?

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