

Xpression by Ferro

Organic Colors For Low-Temperature-Decal

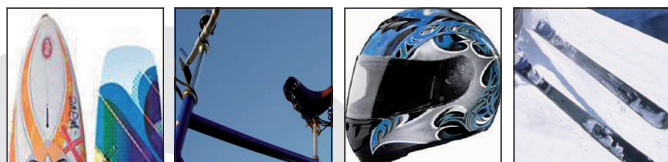


Xpression is a new series of organic colors for low-temperature-decals. The decals will be printed, dried and lacquered on a special transfer paper which can be applied to form designed objects.

The advantage of decals is a decoration without problems even on objects with a complex design. Due to their high flexibility, the decals can be applied on non-flat articles. They adapt to the form of the object, whereas stickers get creased. Decals open up a way of decorating complex objects easily.

Application

The Xpression color series is designed for interior and exterior use. Decals can be applied on almost all substrates. The choice of the protective coating allows the curing on heat resistant substrates at 160°C to 200°C as well as curing on temperature sensitive substrates at room temperature.



Suitable substrates are wood, plastics, porcelain, glass, ceramics, stainless steel, coated aluminium and varnished surfaces. As application examples decorated helmets, motorcycles and other vehicles, skateboards, ski, bicycles, surfboards and other sports equipment, strollers, furniture, bottles, vases, lampshades and small household appliances, displays and industrial labels could be named. There is no limit to the imagination. A decoration with decals is suitable for almost all objects.

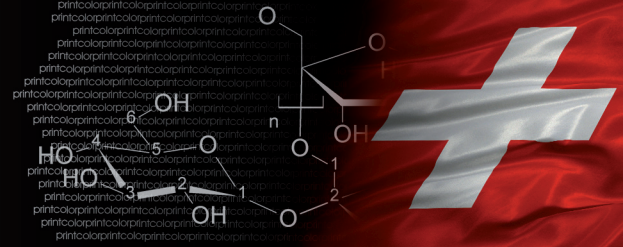
Colors

All colors may be mixed with each other and offer more than 3000 color shades in order to achieve a huge color space. For fast and efficient color matching the Printcolor easyMEMO color management system is available.



Advantages of the Xpression series

- suitable for interior and exterior application
- for almost all substrates, even for temperature sensitive ones
- large variety of colors and excellent miscibility within the series
- easy color matching with Printcolor easyMEMO color management system
- hard surface
- very good light fastness
- alkali and acid resistant
- dishwasher resistance
- solvent resistant
- very low yellowing
- long term temperature stability up to 110 °C
- flexible decals perfectly adapt to the objects
- fine prints possible, complete covering of background not necessary
- lead and cadmium free, no formaldehyde and phthalates
- complies with to DIN EN 71-3 (safety of childrens' toys)



Processing Instructions

Printing Paper

The well-known types of paper for producing ceramic decals are also used for producing Xpression decals. On top of a barrier layer, this kind of decal paper is coated with watersoluble dextrin. In practice, we recommend for example Trucal Plus by Tullis Russell.

Printing Pastes

The range of printing pastes comprises 12 basic color pastes incl. white, additionally we offer the four process colors and gold and silver bronze powder. All printing pastes are supplied with a higher viscosity than suitable for printing in order to fulfil the different printing requirements. Therefore in the first print we recommend a general addition of 1% 80 890. If necessary, the viscosity can be lowered with up to 10 % 80 890. Printing is carried out with fine screens due to the high color intensity of the pastes. We recommend polyester screens PET 120-34 to PET 165-31 or similar stainless steel screens.

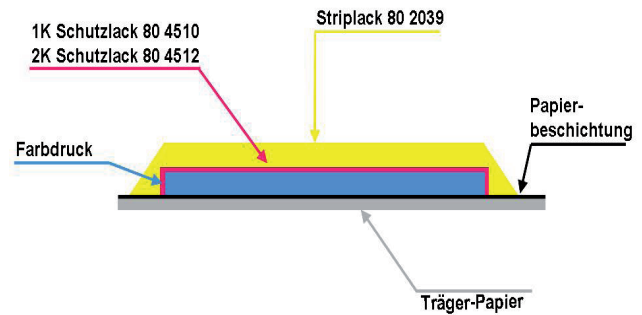
Protective Coatings

After the color decals have been produced and thoroughly dried, they are overprinted with 1-component protective coat 80 4510 for thermal curing or the 2-component protective coat 80 4512 for curing at room temperature. The protective coatings produce a uniform gloss on the decal surface, but also ensure that strippable coating 80 2039 can be removed. The range of protective coatings is completed by 80 4511, a saturation. To print the protective coatings we recommend polyester screens PET 120-31.

Strippable Coating

After printing the pastes and overprinting with one of the protective coatings, the decals must be thoroughly dried. We recommend drying over night, before the overprinting with strippable coating 80 2039 is done. After transferring the decal to the object being decorated, the strippable coating is removed from the protective coating in a dry state. 80 2039 is thus only the transfer coating.

We recommend printing strippable coating 80 2039 with a polyester screen PET 21-140 or stainless steel 80-37. A minimum dry film thickness of 28-30 µm guarantees good processing of the decals during decoration and easy removal of the strippable coating afterwards.



Decoration

The Xpression decals are soaked for a few minutes in water and then they are applied to the object. The decals have to be pressed firmly with a rubber squeegee. If desired, the dishwasher resistance of decals on glass objects or glazed surfaces can be increased by using a special additive. Before the decal is applied, the area to be decorated is pre-treated with a 2% hydrous solution of additive 80 4515. The decal is then being applied on this pre-treated area with the squeegee.

Afterwards, the decorated articles are dried for at least 60 minutes at 40°C or for 24 hours at room temperature. After the drying process the coating on top of the decal (strippable coating 80 2039) is removed completely. Only the high-grade decoration remains on the object.

After-Treatment

When applying the decal, remains of the water-soluble paper-coating and, if used, additive 80 4515 are transferred to the object. These residues leave a visible beige film haze on the substrate after firing or thermal curing. To avoid this effect we recommend wiping the decal surface thoroughly with a wet sponge or cloth directly after decal application. After removal of the strippable coating, the cleaning step can be repeated before thermal curing, in order to remove all traces of the additive.

Thermal Curing

Thermally cured in a hot-air or other ventilated oven at 180°C, 20 min. In case of higher temperatures or longer curing times, a yellowing of the decoration is possible.

Disclaimer: Please thoroughly read the Material Safety Data Sheet (MSDS) prior to processing. The Material safety Data Sheets according to 91/155/EWG form, contain indications of hazardous ingredients. Exposure levels and instructions for precautions when processing, handling and storing as well as first aid. The information given in the MSDS refers to the processing as described within this technical leaflet. Above data are based on laboratory tests and field experience. All therein contained statements are to the best of our knowledge without any obligation from our side and do not discharge from testing the product by yourself. In doubtful cases, you are kindly requested to either perform your own tests or refer to our technical staff. Application, use and processing of the delivered products are beyond our control and are therefore at your own risk and responsibility. Printcolor is thus free from any guarantees or liabilities. In cases of justified complaints, Printcolor can only be made liable for the counterpart of the utilized ink system. Adding not stated products or foreign / competitors products, is solely at your own risk and liberates Printcolor of any later calls; especially in cases when damages occurred and which have been caused through use of products of foreign type. This leaflet replaces all former issues. (08/2010)