



Series 386

Outdoor-resistant Product Range of Series 386

YOUR ADVANTAGES

- › For long-term outdoor use
- › Made from highly resistant raw materials
- › Glossy and highly pigmented screen printing ink
- › High flexibility thanks to a mixing system

Due to its properties and high-quality components, Printcolor's Series 386 is suitable for long-term outdoor use and especially for the decoration of thermoformable materials such as PMMA or polycarbonate. Thus, this series is the perfect choice wherever high elasticity and flexibility in the ink film are required. Furthermore, Series 386 can be used for self-adhesive films, especially for complex lettering or decoration in the automotive sector and for bonding the printed material around edges and in beading.

Applications

Typical applications of Series 386 include:

- Illuminated advertising/signs
- Signs
- Technical foils
- 3D objects
- Vehicle signage

Product range

The outdoor-resistant product range of Series 386 is a mixing system consisting of fourteen basic colors in Series 388 and the binder Series 386-07:

Article	Color	OR	HP	HT
388-1010	MS light yellow	•		•
388-1050	MS pure yellow	•		
388-1100	MS medium yellow	•	•	
388-1150	MS dark yellow	•	•	
388-1300	MS yellow orange	•		•
388-1850	MS pure orange	•		
388-2950	MS pure red	•		
388-3200	MS dark red	•	•	•
388-3300	MS magenta	•	•	•
388-4000	MS violet	•	•	•
388-5000	MS blue	•	•	•
388-6000	MS green	•	•	•
388-8000	MS black	•	•	•
388-9000	MS white	•	•	•

- OR** Outdoor-resistant basic colors for a long-term outdoor use
- HP** Basic mixing system with highly pigmented primary colors.
- HT** Highly transparent mixing colors for high glaze color shades.

To reach the desired property, the MS basic colors of Series 388 must be processed in combination with the binder Series 386-07. The minimum proportion is 20 per cent, the maximum 30 per cent. The inks enable you to reproduce outdoor-resistant and highly brilliant color references and to mix color shades according to your requirements.

All basic colors are free of listed heavy metals according to DIN EN 71-3:2019. Furthermore, as shown in the product range overview, some colors are also highly pigmented or highly transparent.

Further information on the color mixing system and the ink series can be found on our [website](#).

Thermoforming

In thermal forming, one distinguishes between vacuum and thermal-mechanical forming. In the latter method, maximum forming can be achieved. Here, the ink layers of Series 386 have already reached stretching of up to 50 cm.

The right layer thickness of the ink is crucial for high quality in the end product: the more the material is drawn, the higher the layer thickness must be in order not to thin out. We recommend the application with a mesh in the range of 90.48 to 61.61 threads/cm.

Due to the softening of the material and ink at forming temperatures of 150 °C to 210 °C, the forming tool may damage the ink layer. Therefore, we recommend a protective coating with the varnish Series 386-5700.

Factors to increase outdoor resistance

The outdoor resistance of a screen printing ink is highly dependent on the quality of the components used. To achieve the best possible outdoor durability for long-term applications, Printcolor only uses highly lightfast and highly resistant pigments as well as high-quality binders for Series 386. For a screen printing ink for long-term outdoor

PRODUCT INFORMATION

use of up to 5 years, only pigments of the wool scale 7 or 8 are used.

When using highly lightfast inks, a suitable ink formulation and sufficient layer thickness, Series 386 achieves durability of up to 10 years in combination with a high-quality material behind glass.

Regarding application/layer thickness of the ink – an essential parameter for outdoor resistance – Printcolor recommends using a mesh between 61.64 and 120.34 threads/cm, depending on the application. Optimum results can be achieved with maximum layer thickness. Moreover, high material quality is an essential prerequisite.

Please note that even with the highest quality pigments and binders, weathering over the years cannot be ruled out, and outdoor durability is highly dependent on external conditions such as geographical location, orientation or general weather conditions.

Protective varnish and additives

To increase the mechanical resistance during the forming process, using the protective varnish Series 386-5700 is recommended. The proven use of this protective varnish combines fast processability with increased abrasion resistance.

If Series 386 is used to produce vehicle signage, for example, an addition of 5 to 10 per cent of hardener Series 600-HDA is recommended to reach optimum results. However, if increased chemical resistance or an enlarged resistance profile are required, Printcolor recommends using the universally applicable 2-component protective varnish Series 675-003.

If a protective varnish is not required, the chemical resistance of the inks of Series 386 can be increased by adding 5 to 10 per cent of the hardener Series 600-HDA.

The influence of light regarding weathering is counteracted by adding 3 to 5 per cent of the UV absorber Series 10-LSM.

Hardener, as well as the UV absorber, can be used with or without a protective varnish.

Mixing ratio and coloring

With the fourteen outdoor-resistant basic colors, color shades can be mixed according to individual requirements. For optimum results and resistance, as well as to ensure reproducibility and to minimise other influences such as metamerism effects, we recommend keeping the number of basic colors used as low as possible. Pure color shades with an addition of 20 per cent binder Series 386-07 have the highest outdoor resistance. Mixtures with a high proportion of varnish or white or very low proportions of individual basic colors reduce the outdoor resistance and are not ideal for long-term applications.

When mixing color shades, the basic color with the highest proportion is color-giving. Therefore, if a green color shade is to be mixed, for example, the green of Series 388-6000 should be used as the basic color, rather than a mixture of yellow and blue, to minimise the number of basic colors.

easyMEMO-Software

With easyMEMO, Printcolor offers you a color formulation tool for the mixing system. The software provides you with the following benefits:

- › Library of color recipes for the most commonly used color series: Pantone, HKS and RAL
- › Option to create customer-specific special color recipes with full administration features, independent of the ink manufacturer
- › Automatic online recipe updates

Visit www.printcolor.swiss for your free easyMEMO download.

FURTHER INFORMATION

Technical Data Sheet
printcolor.ch/tds

Series 386
printcolor.ch/serie386

Color Mixing System 388
printcolor.ch/mixing-system

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