



## Description

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Perma 21Q UV inks are glossy ultraviolet (UV) curable, single component printing inks designed specifically for use in silicone transfer printing equipment.

When properly applied and cured, 21Q UV inks develop excellent adhesion to a variety of thermoplastic and thermosetting materials. Since Perma UV inks are cured when exposed to high intensity UV radiation, premature polymerization of the ink during the printing process will not occur.

## Applications

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|-----------------------------------|-----------------------------|
| * Polystyrene                     | * Acrylics                  |
| * Unplasticized PVC               | * ABS                       |
| * Polycarbonate                   | * CAB                       |
| * Treated Polypropylene (PP)      | * Treated Polyethylene (PE) |
| * Treated Epoxy Molding Compounds |                             |

**Note:** When printing on polypropylene, polyethylene, and epoxy molding compounds, it is recommended that the surface be pretreated with a flame process so that adequate adhesion is obtained.

## Mixing Instructions

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Perma 21Q UV inks are supplied in a semi-paste form and need to be thinned down to a suitable viscosity prior to using. The following thinners should be used to adjust viscosity of the ink:

### Thinning Solvents

RA-100 Thinner	↓	Fast
RA-400 Retarder	↓	Slow

Before using in the printer, 21Q UV ink should be thoroughly blended with 25-30% RA-100 thinner. If ink transfer problems occur due to premature drying of the ink image on the cliché, a small amount of RA-400 retarder can be added to the ink.

## Drying and Curing

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Curing of Perma 21Q UV ink is virtually instantaneous when exposed to high intensity UV radiation.

Medium pressure mercury lamps, or microwave energized lamps such as *Fusion UV Lamps* with a “D” spectrum bulb are recommended. To ensure proper curing of the ink when the UV lamp (bulb) is orientated perpendicular to the conveyor direction, the lamp height should be adjusted so that the impinging radiation is focused at the substrate surface.

When curing 21Q UV ink, on hard solvent resistant thermosetting plastics and other rigid substrates, improved adhesion may be achieved by aligning the UV lamp (bulb) parallel to the conveyor direction and adjusting the lamp height so that the impinging radiation is focused just above the substrate surface. The substrate should then be fed through the light source so that the ink mark will travel directly under the UV bulb. Improved adhesion has also been observed on difficult substrates when the printed ink image is briefly exposed to heat prior to UV curing.

For most thermoplastic materials, marked parts can be cured at conveyor speeds up to 35 ft/min. The speed at which the ink can be cured depends on ink film thickness, physical and chemical characteristics of the substrate, lamp orientation with respect to conveyor direction, and intensity of impinging radiation. The user will have to determine the proper curing conditions for individual applications.

## Cleaning

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Perma RA-100 or RA-200 Thinner is the recommended cleaning solution for all Perma 21Q UV inks. All equipment and utensils should be cleaned immediately after use.

Isopropyl rubbing alcohol (70%) can be used for minor cleanups on exterior surfaces.

## Storage

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Perma 21Q UV inks are recommended for use within six months from the date of receipt.

Perma 21Q UV inks should be stored in an environment between 15° and 25° Celsius. When stored at cooler temperatures or for extended periods of time without use, separation in the ink may occur. If separation occurs, the sealed bottle can be agitated vigorously by hand for several minutes until a consistent mixture is achieved.

## For Additional Information

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