

UVTS Series– Traffic Signs



Screen Graphics

Long Term Exterior Signage UV Curable Ink

Features

- Excellent Outdoor Durability with Overprinted Clears
- Exceptional Lightfast Pigmentation
- Optimal Reflectance Transparency
- Superior Gloss Retention
- Excellent Chemical & Abrasion Resistance
- Transparent & Opaque Colors Available

Substrate Application

Media Type
Premium Pressure Sensitive Vinyl
Premium Pressure Sensitive Reflective Sheeting
Traffic Signage
Safety Warning Signage

Thinning

Stir well before every use. UVTS Series inks are supplied in a press ready condition for most printing applications. It may be necessary to thin slightly (up to 5% maximum by weight) of the ink color with K89141 Viscosity Reducer for higher speed or roller coating applications.

Mesh

UVTS series color are recommended to print through 355.34 plain weave (140/cm) monofilament polyester fabrics. UVTS-OP Clear is designed to print through 305 to 355 (120 to 140/cm) monofilament polyester fabrics.

Stencils

Stencil materials must be solvent resistant and produce a thin film stencil (3-6 microns over mesh). Xtreme AST-210, AST-220,

Curing

Ultraviolet cure (UV) inks are dependent on a high dosage of ultraviolet light to initiate cure. Light energy must penetrate the entire ink layer to achieve proper cure and ink performance. Only the recommended screen mesh listed above should be used to ensure proper ink film thickness and proper cure. UVTS Series colors are designed to cure in units containing one 200-watt/inch (80 watt/cm) lamp at 40-50 feet per minute (minimum 250mJ/cm²+minimum 500mW/cm²).

UVTS Series OP Clear is designed to cure in units with one 300 watt /inch (120 watt/cm) lamp at 40-50 feet per minute (minimum 350mJ/cm²+minimum 500mW/cm²). Cure speeds are dependent on colors, film thickness, opacity and UV output of the curing unit.

If under-cure is experienced with any color, demonstrated through a wet film or loss of gloss, it is usually due to excessive ink deposit. To correct this, the mechanics, (such as mesh, squeegee, color density, belt speed or the amount of UV energy) must be changed.

Reduction of color density is easily achieved by letting the color strength down with UVRP Mixing Vehicle until proper cure is obtained.

Do not exceed 10% reduction by weight for exterior applications. Adhesion should be at least 90% immediately out of the reactor with final adhesion developing in one-half hour. If total cure on a given substrate with a specific color needs to be established, the printed piece should be passed through the reactor one or two more times. This will usually simulate final adhesion.

Coverage

Standard line colors should yield a coverage of 2800-3500 square feet/gallon (64 to 80 m²/liter) depending on film thickness.

Wash Up

Wash up on press with Xtend™ press washes and after the production run with Xtend™ ink degradents.

Pre-Production Tests

It is strongly recommended that adhesion be tested prior to production. Pressure sensitive films can vary from different manufacturers and even different batches from the same manufacturer. PS vinyls contain ingredients that could migrate to the surface due to age or storage of the film causing poor adhesion. In this case, wiping the film with alcohol can improve adhesion.

END-USER MUST DETERMINE SUITABILITY OF THIS PRODUCT FOR THE INTENDED USE PRIOR TO PRODUCTION.

Product Information

Outdoor Use

Accelerated weather tests have been conducted on prints produced with UVTS Series in QUV and Xenon Arc weatherometers. Under these conditions, UVTS Series colors withstood 2500 hours with no appreciable color change or deterioration evident. Accelerated weathering tests cannot be precisely related to actual outdoor performance, but it is considered that 2500 hours of exposure approximately equates to up to five years out-door exposure in temperature climates.

Exterior durability of any inks is directly related to ink film thickness and pigment concentration. The thinner the ink films the faster the film will deteriorate. Likewise, the less the pigment concentration, the quicker the color will fade. Optimum results can be attained using UVTS color at full strength as supplied.

We **DO NOT** recommend:

- Thinning greater than 5% by weight of color
- Reducing colors more than 10% with Mixing Clear
- Using less than 20% by weight of any component color in a blended color
- Adding Black or White to any color

Note: UVTS Series inks can be overprinted with UVTS-OP Overprint Clear to enhance outdoor durability.

Color Availability

The UVTS Series color range includes a select number of very lightfast colors, the UVTS Mixing Clear and Overprint Clear.

Standard Colors

K93196	UVRP 901 Mixing Vehicle
K94977	UVTS Brown
K94979	UVTS Green
K94980	UVTS Yellow
K94982	UVTS SP Blue
K94983	UVTS SP Stop Sign Red
K95061	UVTS 700 Black
K97500	UVTS OP Clear
K97501	UVTS GS Yellow
K97502	UVTS Violet
K97504	UVTS QBS Red
K97505	UVTS White
UTS-DOP	UVTS Digital Overprint Clear

Reducers

K89141	Viscosity Reducer
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Storage

Containers should be tightly closed immediately after use. At the end of long printing runs, surplus ink from the screen should be disposed of. **Traffic Sign** inks should not be stored in direct sunlight or extreme temperatures. Refer to Material Safety Data Sheet (MSDS) for materials and conditions to be avoided.

In the interest of maximum shelf life, storage temperatures should be between 50°F (10°C) and 77°F (25°C). When stored under these conditions the maximum shelf life is shown by the use by dates, which are clearly marked on all ink containers.

High temperature storage/shipment of prints may have an adverse effect on block resistance

Safety and Handling

Refer to MSDS for safety, handling, waste disposal and regulatory information. All colors have been formulated to contain no pigments which contain lead or other heavy metals. These products are formulated to meet CONEG Packing Legislation and ROHS Electrical and Electronic Equipment Directive. If necessary, certification of lead and heavy metals content can be obtained from an independent laboratory.

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