Product: UV Window Inks
Series: WIN™

DESCRIPTION: WIN series is a transparent, dye-based UV ink system for printing panel display windows. WIN inks are specifically formulated for printing onto polycarbonate and top-coated polyester used in membrane switch overlays, automotive dash panels and various other, similar applications.

FEATURES & BENEFITS: One of the main benefits of the WIN system is that it will pass the Ford WSS-M2P184-A Automotive Specification, with the exception of the Xenon color fade test, which no dye-based ink system will pass.

The following chart highlights other advantages of WIN when compared to traditional solvent-based dye inks:

Characteristic	Typical Solvent-Based Dye Inks	WIN UV Dye-Based inks
Bleeding of dyes into other colors	A common problem with solvent-based dye inks	Highly resistant to bleeding when trapped over or under other inks around the edges of windows
Color consistency through print run	Solvent evaporation can cause wide variations in color density	100% solids system greatly reduces color density variation
Screen Stability	Prone to drying-in, limited screen stability	Will not dry-in, almost unlimited screen stability
Scuff Resistance	Prone to scuffing, requiring the use of protective masking	Cures to a very hard, scuff-resistant finish. Eliminates the need for protective masking
Clarity (no haze or halo effect)	Excellent clarity	Excellent clarity, equal to solvent-based inks

LIMITATIONS:

- WIN inks are not designed for applications where the ink film comes in contact with adhesives.
- WIN inks are NOT intermixable with Sun Chemical's PD,UVT or any other ink system.

SHELF-LIFE/POT-LIFE: WIN is a series of 8 single dye colors that can be intermixed in any ratio to achieve special colors. In their mono-dye state, as supplied, WIN inks have a shelf-life of 3-months from the date of manufacture, but once any 2 or more WIN inks are intermixed to achieve a special color, the pot-life is reduced to approximately 24 hours.

Therefore, when preparing blends of WIN inks for a press run, do so immediately prior to use and only make an amount that is required to complete the run. Excess blend material should be discarded.

OUTDOOR DURABILITY: WIN inks are not recommended for applications requiring outdoor durability.

CURING: In order to achieve satisfactory cure and adhesion of WIN inks, an output of UV energy in the range of 400-800 mJ/cm^2 is recommended depending on color, mesh, and other variables affecting ink film deposit. Substrates have differing receptivity to UV ink, and on certain rigid and/or colored materials it may be necessary to cure ink more effectively to achieve satisfactory adhesion.

MIXING: Prior to use, thorough mixing with an ink spatula or power-mixer at low speed is required to counteract any separation that may occur during storage, but care should be taken not to mix too much air into the inks, which can create excessive air bubbles.

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MODIFICATION: The following additives are available for use with WIN series inks:

• ST-482 Flow Promoter – Use at 0.25-1.0% by weight to improve printability.

• ST-290 Viscosity Modifier – Use at 3-5% by weight to reduce viscosity.

SCREEN MESH: 255-420/in. (100-165/cm) plain-weave monofilament polyester mesh, is suitable for processing. When using coarser fabrics the curing parameters must be adjusted for sufficient cross-linking of the increased ink film deposit. **Sun Chemical has the mesh best suited for your particular printing requirements. Contact your local Sun representative for details.**

WASH-UP: Sun Chemical has a variety of wash-ups including ECO friendly screen washes available for your particular needs. Contact us for *all* of your pre and post-press chemical requirements.

SQUEEGEE: Sharp urethane squeegee of approximately 75-85 durometer. **Sun Chemical has the best squeegee for your particular application. Contact your local Sun representative for recommendations.**

COVERAGE: When printed through a 255-420/in. (100-165/cm) plain-weave mesh, WIN will cover approximately 2500 square feet per gallon, depending on printing variables. Higher coverage can be achieved when finer mesh counts are used.

STORAGE: When stored in black polyethylene containers at temperatures between 40-90°F (5-32°C), WIN inks have the following shelf-lives:

• 6 months for: WIN-11; WIN-13; WIN-22; WIN-26; WIN-43; WIN-75; WIN-99

• 3 moths for: WIN-24; WIN-37

HEALTH AND SAFETY: As with all inks, gloves and safety goggles should be used when handling this product. For more complete information, refer to the relevant **Material Safety Data Sheets.**

Mono-Dye Colors:		Modifiers:	
WIN-11	GS Yellow	ST-290	Viscosity Modifier
WIN-13	RS Yellow	ST-482	Flow Promoter
WIN-22	YS Red	In accordance with information received from suppliers, the full WIN series is formulated without heavy metals and complies with: 16 CFR, Part 1303; ANSI Z66.1-1964; ASTM F 963; CONEG packaging regulations; EC Packaging Waste Directive EC/94/62; EN71, section 3; RoHS 2002/95/EC; WEEE 2002/96/EC; E2003/11/EC.	
WIN-24	BS Red		
WIN-26	Scarlet		
WIN-37	Violet		
WIN-43	GS Blue		
WIN-75	Black		
WIN-99	Mixing & Overprint Clear		

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