

STARFIRE® BASES FOR PANTONE® HEXACHROME™ INKS

DayGlo® STARFIRE PANTONE HEXACHROME Bases are high strength colors utilizing DayGlo STARFIRE technology. The thoroughly tested vehicle system utilized in these bases yields maximum color density and excellent press performance.

Available Colors:

SFB-6803	PANTONE HEXACHROME Yellow*
SFB-6804	PANTONE HEXACHROME Orange*
SFB-6806	PANTONE HEXACHROME Magenta*

Color Strength, Brightness & Finish:

Innovative vehicle technology has given DayGlo the ability to disperse a high loading of sub-micron fluorescent pigment particles into the STARFIRE Bases and maintain a workable rheology. Matte or gloss finish can easily be achieved through the use of appropriate let-down vehicles.

Press Performance:

Inks made from STARFIRE Bases yield excellent performance characteristics on press. Excellent tack stability, anti-emulsification properties, faster setting and thorough drying are easily achieved with the STARFIRE Bases. Typical 80% base formulations will allow the printer to carry less ink on his distribution rollers and at the same time print stronger colors.

Trapping Over Conventional Colors:

Care should be taken when trapping over conventional colors as the high strength of STARFIRE Bases are more opaque than typical fluorescent inks.

Typical Physical Properties:

Grind	6.0+ Minimum Hegman Gage
Laray Viscosity	75-105 Sec @ 90°F (900 Gr. Wt.) (Over 10cm)
Pigment Concentration/Type	>50% Dyed Polymer
Vehicle/Type	Proprietary/Resin Modified Alkyd
Weight Per Gallon	9.2-9.4 Lbs./Gal.
Volatile Organic Compounds	1.4-1.5 Lbs./Gal. (167.9-179.9 g/l)

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Recommended Starting Formulations:

1. Sheetfed Ink:

DayGlo® STARFIRE Base	80.0
Gloss Quickset Vehicle	14.0
S394-N1 Polyethylene Wax ¹	2.0
Magiesol 52 Ink Oil ²	2.0
6% Cerium Octoate Drier ³	1.0
12% Manganese Drier ⁴	<u>1.0</u>
	100.0

Tack = 14-16 @ 1200 RPM, 90°F

2. Web Offset Ink:

DayGlo STARFIRE Base	70.0
Low Energy Heatset Varnish	23.0
S394-N1 Polyethylene Wax ¹	2.0
SST-3 PTFE Powder ¹	1.0
Magiesol 47 Ink Oil ²	<u>4.0</u>
	100.0

Tack = 14-16 @ 1200 RPM, 90°F

¹Shamrock Chemical Corp

⁴Mooney Chemicals, Inc.

²Magie Bros. Oil Co.

⁵BASF

³Shepherd Chemical

PANTONE HEXACHROME Formulations:

1. PANTONE HEXACHROME Yellow:

PANTONE Yellow 012 (Flush)	24.0
STARFIRE PANTONE HEXACHROME Yellow SFB-6803	30.0
Vehicles, Waxes, Driers	<u>46.0</u>
	100.0

2. PANTONE HEXACHROME Orange:

PANTONE Orange 021 (Flush)	50.0
STARFIRE PANTONE HEXACHROME Orange SFB-6804	20.0
Vehicles, Waxes, Driers	<u>30.0</u>
	100.0

3. PANTONE HEXACHROME Magenta:

PANTONE Rhodamine Red (Flush)	30.0
STARFIRE PANTONE HEXACHROME Magenta SFB-6806	33.0
Vehicles, Waxes, Driers	<u>37.0</u>
	100.0

Formulation Considerations:

Extender Varnishes: For optimum results, a low tack urethane is recommended. Optimum setting characteristics are developed with this varnish as well as optimum color brightness and matte finish. Always pretest the ink formulation for drying and adhesion on the stock to be printed.

Rub & Slip Additives: Where maximum setting speed and good rub resistance is required, the use of a high quality dry wax is recommended. Usually 2-3% dry wax is sufficient. This permits the use of additional vehicles, oils, and other modifiers which will contribute to faster setting speed, and improved printability and finish. Where maximum rub and slip properties are desired, the addition of 0.5%-1.0% PTFE powder is recommended.

Driers: A combination drier of 1% of 6% cerium, 1% of 12% manganese, and 1% of 6% manganese drier is recommended for sheetfed offset inks. The addition of a cobalt drier is not recommended.

Tack Reducing Agents: High boiling aliphatic ink oils such as Magiesol 52 or 60 (or equivalent) are recommended as the primary tack reducers. DayGlo® VELEX® TR-052, 100% solids tack reducer, is also highly recommended. In addition to reducing tack effectively, the TR-052 will help maintain ink viscosity, improve press stability, add oxidizable solids and enhance blanket release.

Kodaflex TXIB and Tridecyl Alcohol (TDA) are secondary tack reducers, but are much more effective in helping to control flow and transfer properties in the ink when used in small percentages. Drying oils such as tung, oiticica and linseed oil can also be used to reduce tack and add oxidizable solids.

Additives for Water Resistance & Anti-Emulsification Properties: The STARFIRE Bases have been formulated to resist emulsification in most common ink formulations. Additional anti-emulsification additives should not be necessary.

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