



SAPPHIRE Ink
WK Series
2-Part Pad Printing Ink
Rev: SC-42612

General Overview:

WK Series ink is a very high gloss opaque 2 component ink for use with the most demanding, scratch resistance, mechanical and chemical resistant applications. WK series has excellent hiding qualities and has superior resistance to chemicals and water upon completion of cure.

Substrates:

- ABS
- Polystyrene & polycarbonates
- Hard PVC
- Metals
- Polyurethane
- Polyamides
- Lacquered surfaces

Typical Applications:

- Pens and promotional products
- Nameplates & bezels
- Sporting goods & Golf balls
- Industrial Housings
- Automotive knobs/buttons
- Electronic components
- Watches & Clock faces

Mixing Preparation: 2 component ink

Hardeners: WK Series inks cures by cross-linking. Add 1000H Hardener at a ratio of one part hardener to two parts ink (2:1) by weight. WK Series ink has a 6/7 hour working pot life.

Solvent: Immediately after adding the hardener the mixture should be adjusted to printing viscosity with 10% - 30% M or MS solvents by weight. Adding solvent will make the ink less viscous and slower drying.

Drying: WK Series inks cure by chemical cross-linking. At room temperature, the WK series ink dries in approximately two minutes. Application of hot circulating air will reduce drying time to a few seconds. Complete cross-linking (full cure) of the inks is realized in 6-7 days at room temperatures. Application of heat at lower temperatures will promote acceleration of cross-linking and reduce cure time.

Retarder: For fine prints, add Type MS, EB, or S3 retarder in proportions not to exceed 40% by weight of solvent. Adding excess retarder may inhibit ink transfer from pad to substrate.



Auxiliary Agents

Pad Print Solvent:	
Type M Solvent	(Medium)
Type MS Solvent	(Slow)
Screen Print Solvent:	
Type S3 Retarder	(Very slow)
Hardener:	
1000 H Hardener	
1000-HN Alt. Hardener	

Process Colors:

WK 1080	Europa Yellow
WK 1081	Europa Magenta
WK 1082	Europa Cyan
WK 1083	Europa Black

Standard Colors:

WK 110	Lemon Yellow	WK 132	Ultra Blue
WK 111	Medium Yellow	WK 133	Dark Blue
WK 112	Dark Yellow	WK 134	Turquoise
WK 115	Orange	WK 136	Violet
WK 117	Ochre Yellow	WK 140	Bright Green
WK 120	Bright Red	WK 141	Dark Green
WK 121	Signal Red	WK 142	Emerald Green
WK 122	Carmine Red	WK 150	Light Brown
WK 124	Dark Pink	WK 151	Dark Brown
WK 130	Light Blue	WK 160	White
WK 131	Medium Blue	WK 165	Black

Mixing Colors:

WK 10	Lemon Yellow
WK 11	Dark Yellow
WK 12	Orange
WK 21	Signal Red
WK 22	Carmine Red
WK 25	Magenta
WK 27	Violet
WK 32	Blue
WK 40	Green
WK 60	White
WK 65	Black
WK 70	Transparent

High Density Colors:

All standard shades of WK series inks are highly opaque.



ICN ADDITIONAL SERVICES:

Mixing System Colors: ICN offers a series of 12 basic colors and all formulations required to generate color shades in Pantone, HKS and the RAL scale. This system provides formulations by weight in an easy to use format for generation of custom colors in house. ICN provides pre-generated documentation of all popular numerical matching formulations including HKS and RAL formulations in electronic or preprinted format *for all ink series*. These formulations are provided at “no charge” as a service to our customers and are calculated for a white background.

Color Matching Services: The ICN color lab also provides custom computer generated color matching services at additional charge. Any popular numerical color formulations can be matched and verified for all surfaces with varying substrate color.

Cleaning: Wet or “at press” cleaning should be achieved using the auxiliary solvents specified in the Auxiliary Section of this technical data sheet. For general cleaning of ink cups, flood bars, Dr. blade assemblies, plates and print press components, ICN recommends the use of an appropriate “safety solvent” such as EBD. These aggressive safety solvents contain no TLVS (Threshold Limit Values), are extremely effective and available from ICN.

Ink Removal: While our main mission as an ink provider is to “make it stick”, ICN offers a revolutionary new product called *Ink Away* to effectively remove misprints and allow re-processing of product. *Ink Away* will not harm plastic substrates and is effective in recovery from defective product!

Printing Pads: Successful decoration and print quality are heavily influenced by print pad selection. ICN manufactures the highest quality print pads available utilizing a proprietary high pressure process and can provide custom blended silicones that provide extended pad life and superior print quality. Our technicians are available to provide recommendations concerning pad selection and material types to compliment your decoration process.

Storage: Inks and solvents should be stored in a suitable “safe environment”, see local regulations. Shelf life for unopened inks is approximately two years under normal conditions. (Temperatures of 68 to 80 degrees F and humidity of 20-70%). Metallic colors, due to pigment composition, have a shelf life of 12 months. All unopened solvents have an indefinite shelf life.

Packaging: All color shades are packaged in standard 1kilogram containers. Optional 5 kilogram packaging is offered as “special order” for high volume users. Due to cost and restricted shelf life, metallic shades are offered in 1 kilogram and ½ kilogram packaging.

Precautionary measures: Please review all material safety data sheets for this and all products prior to use. The material safety data sheets have been compiled to indicate precautionary instructions regarding use, handling, storage, first aid measures and transportation for products used in the workplace. Please contact ICN with any technical questions regarding our products or to obtain additional MSDS information.