



SAPPHIRE Ink
DP Series
1-Part Pad Printing Ink

General Overview:

DP series is a specialty ink designed for printing on untreated polypropylene. It is a high gloss ink with excellent adhesion on most polypropylene substrates. The more virgin the substrate, the greater the adhesion without requiring pre-treatment. PP1 adhesion promoter can be added to the DP series ink to improve adhesion.

Substrates:

- Polypropylene

Typical Applications:

- Promotional Products
- Frisbees
- Syringes & Medical Devices
- Cosmetics
- Industrial Housings

Mixing Preparation: 1 component ink

Hardeners: DP Series inks cure by air drying.

Thinner: The ink should be adjusted to printing viscosity with 10% - 30% Type DP-M or Type MS thinners by weight. Adding thinner will make the ink less viscous and slower drying.

Adhesion Improvement: For “non-pure” polypropylene additional modifiers may be used to improve adhesion. Add PP1 Adhesion Modifier to ink up to 15% weight or pre-wipe substrate with PP Primer.

Drying: DP Series inks cure by air drying. It will be ready for overprinting in less than 60 seconds and will be dust dry in 20 minutes at room temperature. Complete cross-linking (full cure) of the inks is realized in 6-8 days at room temperatures. Dust dry and full cure conditions can be significantly accelerated by the application of heat.

Retarder: For fine prints, add Type MS retarder in proportions not to exceed 50% by weight of thinner. Adding excess retarder may inhibit ink transfer from pad to substrate.



Auxiliary Agents

Thinner	Type DP-M
Slow Thinner	Type MS
Modifier	PP1 Adhesion Promoter
Pre-Wipe	PP Primer

Process Colors:

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

Standard Colors:

DP 110	Lemon Yellow	DP 132	Ultra Blue
DP 111	Medium Yellow	DP 133	Dark Blue
DP 112	Dark Yellow	DP 134	Turquoise
DP 115	Orange	DP 137	Violet
DP 117	Ochre Yellow	DP 140	Bright Green
DP 120	Bright Red	DP 141	Dark Green
DP 121	Signal Red	DP 142	Emerald Green
DP 122	Carmine Red	DP 150	Light Brown
DP 125	Light Pink	DP 151	Dark Brown
DP 130	Light Blue	DP 160	White
DP 131	Medium Blue	DP 165	Black

Mixing Colors:

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

Vibrite Super Opaque Colors:

DP 160 HD	White
DP 165 HD	Black



Metallic Colors:

Standard Metallic: (Pre-Mix)

DP 75RE	Pale Gold
DP 76RE	Yellow Gold
DP 77RE	Bright Gold
DP 78RE	Rose Gold
DP 79/050	Silver

ICN ADDITIONAL SERVICES:

Mixing System Colors:

ICN offers a series of 12 basic colors and all formulations required to generate all popular numerical color shades. 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 color 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 ink color can be matched and verified for all surfaces with varying substrate color.

Cleaning: Wet or “at press” cleaning should be achieved using the auxiliary thinners 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 Easysolv 120 or MPC. 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