SAPPHIRE Ink
CG Series
2-Part Pad Printing Ink

General Overview:

CG Series is a specialty 2-component pad printing ink specifically formulated for use with glass, ceramics and metals. It has a satin gloss, is opaque and easy to process (even with multi-colors). CG offers excellent adhesion and dishwasher resistance and has rapid cross-linking and improved resistance with a heat cure after printing.

Substrates:

- Glass
- Ceramics
- Metals and plated surfaces
- Chromed surfaces
- Hard plastics
- Epoxy resins
- Lacquered surfaces

Typical Applications:

- Stainless steel mugs
- Ceramic mugs
- Glass bottles
- Coated metal parts
- Cosmetic bottles
- Light bulbs
- Faucets

Mixing Preparation: 2 component ink

Hardeners: CG Series inks cure by cross-linking. Add 1000H-GL Hardener at a ratio of one part hardener to twenty parts inks (20:1) by weight. CG Series ink has an 8/9 hour working pot life.

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

Drying: CG Series inks cure by chemical cross-linking. 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 7-8 days at room temperatures. Complete cure and full resistance to dishwashing cycles and chemicals can be accelerated by addition of heat (140 C) for 30-60 minutes. Application of heat at lower temperatures will promote acceleration of cross-linking and reduce cure time.

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.

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Auxiliary Agents

Thinner	Type M
Slow Thinner	Type MS
Hardener	1000 H-GL

Process Colors:

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

Standard Colors:

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

Mixing Colors:

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

Vibrite Super Opaque Colors:

CG 110 HD	Lemon Yellow
CG 111 HD	Medium Yellow
CG 112 HD	Dark Yellow
CG 115 HD	Orange
CG 120 HD	Bright Red
CG 121 HD	Signal Red
CG 122 HD	Carmine Red
CG 130 HD	Blue
CG 137 HD	Violet
CG 140 HD	Green
CG 160 HD	White
CG 165 HD	Black

20 Locust Street, Suite 104, Danvers, MA 01923 phone: 800-780-8071 fax: 978-646-8981
www.inkcups.com

Metallic Colors:

Standard Metallic: (Pre-Mix)		Outdoor Resistance (Pre-Mix)		Metallic Pastes	
CG 75ME	Pale Gold	CG 75RE	Pale Gold	CG B75	Pale Gold
CG 76ME	Yellow Gold	CG 76RE	Yellow Gold	CG B76	Yellow Gold
CG 77ME	Bright Gold	CG 77RE	Bright Gold	CG 77B	Bright Gold
CG 78ME	Rose Gold	CG 78RE	Rose Gold	CG 78B	Rose Gold
CG 79/02ME	Silver	CG 79/050	Silver	CG 79B	Silver
				CG 79/110	Metal Silver Flake
				CG 79/020	Metal Silver Flake
				CG 170/79	Metal Flake Black

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 shades 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

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