SAPPHIRE Ink
SB Series
1-Part or 2-Part Pad Printing Ink
Rev: SC-42612

General Overview:

SB Series is a specialized 1 or 2 component pad printing ink with excellent adhesion to rubber-like substrates. Its unique flexibility, high gloss and opacity make it the ideal choice for rubberized and soft-touch items. SB as a 2 component ink provides exceptional mechanical abrasion resistance.

Substrates:	Typical Applications:
• Rubber • Polyurethane based materials • Flexible substrates • Textiles	• Stress balls • Play balls & sporting goods • Skateboard Wheels • "Soft Touch" surfaces • Soft PVC • ID Cards • Binders & report covers

Mixing Preparation: 2 component usage optional

Hardeners: SB Series inks cure by air drying and cross-linking. Add 1000H Hardener at a ratio of one part hardener to ten parts ink (10:1) by weight. SB Series ink (when using hardener) has a 7/8 hour working pot life. Note: PP-1 Adhesion Promoter may be used with SB ink, with or without 1000H Hardener.

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

Drying: SB Series inks cure by air drying or 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 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 SB-MS, EB, or S3 retarder in proportions not to exceed 40% by weight of solvent. Adding too much retarder may inhibit ink transfer from pad to substrate.

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Auxiliary Agents

Pad Print Solvent:	
Type SB-M Solvent	**(Fast)**
Type SB-N Solvent	**(Medium)**
Type SB-MS Solvent	**(Slow)**
Screen Print Solvent:	
Type SP-5 Solvent	
Type EB Solvent	**(Low odor)**
Type S3 Retarder	**(Very slow)**
Hardener:	
1000 H Hardener	
1000 HN Hardener	**(For outdoor)**
Adhesion Promoter PP1	
Liquid Primer PP	
Anti-Static Liquid S	
Anti-Static Paste E	
Opacifying Paste	
MS 2000/S Leveling Agent	

Process Colors:

SB 1080	**Europa Yellow**
SB 1081	**Europa Magenta**
SB 1082	**Europa Cyan**
SB 1083	**Europa Black**

Standard Colors:

SB 110	**Lemon Yellow**
SB 111	**Medium Yellow**
SB 112	**Dark Yellow**
SB 115	**Orange**
SB 117	**Ochre Yellow**
SB 120	**Bright Red**
SB 121	**Signal Red**
SB 122	**Carmine Red**
SB 124	**Light Pink**
SB 130	**Light Blue**
SB 131	**Medium Blue**
SB 132	**Ultra Blue**
SB 133	**Dark Blue**
SB 134	**Turquoise**
SB 136	**Violet**
SB 139	**Reflex Blue**
SB 140	**Bright Green**
SB 141	**Dark Green**
SB 142	**Emerald Green**
SB 150	**Light Brown**
SB 151	**Dark Brown**
SB 160	**White**
SB 165	**Black**

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Mixing Colors:

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

High Density Colors:

SB 160 HD	**White**
SB 165 HD	**Black**

Metallic Colors:

Standard Metallic: (Pre-Mix)

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

Metallic Paste:

SB B75	**Pale Gold**
SB B76	**Yellow Gold**
SB B77	**Bright Gold**
SB B79	**Silver**

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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.