

Ink mixing Instructions:

Pad printing Inks are mixed by weight not volume. *(A digital scale measuring in grams is recommended.)*

- Open the Ink Container and mix thoroughly.
- Place an appropriate container on the scale & zero out the TARE on the scale.
- Add 100% of ink *(or 100 grams)* into the container.
- Zero out the TARE on the scale
- Zero out the scale, add minimum 20% *(20 grams)* up to 30% *(30 grams)* of thinner.
Let Stand for 3 minutes before use.

Ink must be periodically re-thinned in the ink cup to replace evaporated solvents.

Typically a 2-3hour maintenance program can be implemented on longer runs.

Never return ink back into the original container after dispensing.

All mix ratios are based off of the original 100% ink weight, do not accumulate.

If you still require assistance, please contact technical support @ 1 800 982 1928

Pad printing ink with excellent adhesion to treated and un-treated Polypropylene

Satin Gloss, Fast Drying, Single component, Extra opaque, flexible

Application

Substrates:

Sigma PP is a single component, solvent based ink adhering extremely well to polypropylene materials without the required pre-treatment such as flame or corona discharge.

Certain polypropylene resins may carry residual lubricants applied during the molding process. This may reduce adhesion. If lubricants are present a surface cleaning may be required to insure the best adhesion. Performing a simple ink adhesion test is recommended to insure desired results.

Because substrates may be different in printability, preliminary trials are important to decide the suitability for intended use.

Use:

The high gloss and fast drying Sigma PP inks are mainly used to print onto untreated polypropylene. Although PP is designed to work on a wide variety of products, it is not intended to be used on any surface that may come in contact with food stuff.

Ink Characteristics

Drying:

Touch dry time: 15-40 seconds at 70°F (20°C)
Heated air dry time of 10 seconds at 150°F (55-60°C)
yields the greatest adhesion. **This is the preferred method of drying and is highly recommended.**

Pot Life:

Inks have a 10-16 hour working life.

Fade Resistance:

Sigma uses quality pigments to provide lasting vivid colors of printing ink. Maximum resistance to fading and weathering is achieved when using opaque colors. Only applying a thin layer of ink (shallow plate) to your substrate will negatively affect the fade resistance of the print.

Wear Resistance:

After being allowed to fully cure to the substrate Sigma PP Series ink demonstrates excellent adhesion on Treated and Un-Treated Polypropylene. Performance characteristics include resistance to alcohol, scratch, rub, and tape.

Color System

Opaque Colors

PP-310	Black EO
PP-311	Light Gray EO
PP-320	White EO
PP-330	Primrose Yellow EO
PP-331	Rich Yellow EO
PP-340	Orange EO
PP-350	Fire Red EO
PP-351	Red EO
PP-380	Reflex Blue EO
PP-381	Blue EO
PP-390	Green EO

Mixing Colors

PP-M-10	Mixing Black
PP-M-20	Mixing White
PP-M-30	Mixing Warm Yellow
PP-M-31	Mixing Yellow
PP-M-40	Mixing Orange
PP-M-50	Mixing Pink
PP-M-51	Mixing Red
PP-M-52	Mixing Scarlet Red
PP-M-70	Mixing Violet
PP-M-80	Mixing Blue
PP-M-90	Mixing Green

PP CLEAR Clear/Varnish

Metallic Colors

PP-300	Metallic Silver
PP-305	Rich Metallic Gold
PP-306	Bright Metallic Gold
PP-307	Pale Metallic Gold

CMYK

PP-P CYAN	Process Cyan
PP-P MAGENTA	Process Magenta
PP-P YELLOW	Process Yellow
PP-P BLACK	Process Black

Custom Color Matching

As a service, Sigma will custom match to Pantone, RAL, Federal Standard, or sample color chips.

Thinners

PP-101	Retarder	3-10%
PP-102	Thinner	20-40%
PP-103	Fast Thinner	20-40%

Thinner should be added to the ink concentrate as a percentage of the weight of ink measured out. Thinning requirements may require adjustment for particular process, speed or environmental conditions.

Printing Plates

All commercially available plate materials including: photopolymer, both thick- and thin-steel as well as ceramic coated metal are compatible with Sigma PP Series ink. Recommended artwork etch depth is 1.2 thousandths of an inch (0.0012 inch).

Printing Methods

Sigma PP Series ink is specifically formulated for the demands of the pad printing process; with transferability, opacity, adhesion, flexibility, and high wear resistance being its core attributes.

Sigma PP Series has been extensively tested with closed-cup pad printing machines and has been used in screen printing and open ink well printing systems. Thinning requirements must be tailored to the specific printing process and environmental conditions.

Recommendations

Mix contents of the ink can thoroughly before each use. Ink is supplied in concentrated form (Thinner must be added for production use). PP-101 Retarder may be added to control ink tacking performance. All containers should be tightly sealed when not in use. Do not pour mixed or used ink back into the original container.

Shelf Life

Shelf life depends upon the formula/ reactivity of the ink system as well as the storage temperature. The shelf life for an unopened ink container if stored in a dark room at a temperature of 60-78°F is:

PP Ink	2 years
PP Ink Thinners	5 years

Under different storage conditions, especially higher storage temperatures, the shelf life is reduced. In such cases, the warranty given by Sigma expires

Labeling

Original ink and additive containers are labeled with appropriate health and safety information as well as downloadable MSDS. Sigma or its distributors can be contacted for any additional questions or concerns regarding labeling

Certifications:

- Phthalate Free: Annex XVII Items 51 & 52 of the REACH Regulation (EC) NO. 1907/2006 (formerly known as Directive 2005/84/EC)
- RoHS Compliant: Free of Lead, Cadmium, Mercury, Hex-Cr, PBB, PBDE-fire retardant
- REACH Compliant: Free of SVHC, as listed by ECHA
- EN-71-3: International Toy Safety standard regarding the use of toxic chemicals.

Note

Any technical recommendations relayed through this TDS are based through our knowledge from our preliminary testing and qualifications of our inks. This information is merely to inform about our products and their uses. This is not meant as an

assurance for certain properties of the products nor their suitability for each application. You are, for that reason, obliged to carry out your own tests with our products to prove they are suitable for the desired process. The selection and testing of the ink for specific application is exclusively your responsibility. Should any liability claims arise, they shall be limited to the value of the goods delivered by us and utilized by you with respect to any and all damages not caused intentionally or by gross negligence.