

PA Series Poly-All Screen Inks have been designed specifically for screen printing on untreated polypropylene. PA Series performs satisfactorily on most polypropylene surfaces; however, since there is considerable variation in the formulation of substrate materials, the user must always pretest prior to a production run. PA Series exhibit a semi-gloss finish, and has very good flexibility. It has also proven successful in some pad printing applications.

Substrates

Untreated polypropylene (PP)

Substrate recommendations are based on commonly available materials intended for the ink's specific market when the inks are processed according to this technical data. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Reference the 'Quality Statement' at the end of this document.

Mesh

230-305 tpi (90-120 tpcm) monofilament polyester mesh for most applications.

Stencil

Use direct emulsions and capillary films which are solvent resistant.

Squeegee

70-80 durometer polyurethane squeegee.

Coverage

Depending upon ink deposit, the estimated coverage per gallon: 1,200-2,500 square feet (111 - 232 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

Screen Printing

Add only enough ink to the screen to be able to print for 5-10 minutes. Add additional ink in small increments throughout the print run to maintain screen stability. Thoroughly mix the ink prior to printing. Improper mixing can lead to inconsistent color and ink performance.

Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing flow and increasing film thickness. Elevated temperatures lower the ink viscosity, reducing print definition and film thickness.

Pretest to determine optimum printing parameters for a particular set of ink, substrate, screen, press, and curing variables/conditions.

Nazdar does not recommend inter-mixing this ink series with other inks or series.

Pad Printing

These Solvent-based inks can be pad printed. The use of thinners or retarders may be required to achieve the correct transfer. Please follow the printing and drying guidelines.

Drying / Curing Parameters

PA Series air dries in 20 minutes or may be force dried in 15-25 seconds at temperatures from 90°F to 150°F (32°C to 66°C). Poly-All should "age" a minimum of 72 hours for maximum adhesion. Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

Adhesion Testing

- Touch of ink surface – the ink surface should be smooth.
- Thumb twist – the ink surface should not mar or smudge.
- Scratch surface – the ink surface should resist scratching.
- Cross hatch tape test – per the ASTM D-3359 method, use a cross hatch tool or a sharp knife to cut through ink film only; then apply 3M #600 clear tape on cut area, rub down, and rip off at a 180 degree angle. Ink should only come off in actual cut areas.

Cleanup

For screen cleaning, similar products to those listed below may be used.

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash or IMS203 Economy Graphic Screen Wash
Press Wash (On Press): Use IMS301 Premium Graphic Press Wash

Ink Modifications**Clears / Varnishes**

Mixing Clear/Metallic Clear: use to reduce the density of colors or as a clear base for specialty additives such as Metallic additives.

Additives

Prior to production, test any additive adjustment to the ink. Inks containing additives should not be mixed with other inks.

Example for additives: Ink at 100g with 8% of an additive is calculated as: 100g ink + 8g additive = 108g total

Reducer / Thinner

Use PA7 Thinner to reduce the viscosity of these inks. Add up to 15%.

Retarder

Use PA8 Retarder to improve on screen stability. Add up to 5%. For hot climate conditions or for slower drying, a blend of PA7 Thinner and PA8 Retarder can be used.

Adhesion Promoter

Use 132661PA Polyall Adhesion Promoter to enhance adhesion. Add up to 5%.

Adhesion can also be increased by using 136579PA Polyall Wiping Solution. Wet rag with 136579PA, wipe the surface of the substrate, allow the 136579PA to dry, and then print onto the treated surface.

Flow Control / Leveling Agent

Use FP460 Flow Promoter to reduce pinholes/air bubbles present in the printed ink film. Add up to 3%.

General Information**Handling**

Refer to the SDS for recommendations on handling.

Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If product does come in contact with skin, wipe ink off with a clean, dry cloth (do not use solvent or reducer). Wash the affected area with soap and water.

Consult the applicable Safety Data Sheet (SDS / MSDS) for further instructions and warnings.

For assistance on a wide range of important regulatory issues, consult the following Regulatory Compliance Department link at <http://www.nazdar.com> or contact Nazdar Ink Technologies - World Headquarters (see contact listing at the end of this document).

Storage / Shelf Life

Store closed containers at temperatures between 65°-78°F (18°-25°C). Storing products outside of these recommendations may shorten their shelf life.

Standard items useable for a period of at least **48 months** from the date of manufacture.

Shelf life above applies to the standard ink items listed on this TDS. To obtain the shelf life for special inks and additives, contact Nazdar Customer Service or Nazdar Technical Service. See contact listing at the end of this document.

Standard Color Range

Based on information from our raw material suppliers, these ink products are formulated to contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

Standard Printing Colors

Nazdar PA / Poly-All Series Screen Ink

Standard Printing Colors have excellent opacity over a variety of substrates.

High opacity colors have been formulated to achieve hard to match red, orange and yellow colors over dark substrates. PA701 Yellow, PA700 Orange and PA703 Red can be used as is or mixed with other PA colors to achieve opaque color matches.

Mixing Colors

The Mixing Colors are recommended for use in color matching. The higher pigment concentration of these colors provides stronger color saturation.

Special Effect Pigments

When inks are to be printed with a special effect color, all ink layers must be evaluated for intercoat adhesion before proceeding with the production run. To maximize intercoat adhesion, specialty colors should be printed as late as possible in the print sequence.

Pigments may settle in the container; prior to printing, thoroughly mix the ink.

The following special effect pigments may be added to the ink. Contact Nazdar for the item number(s) and availability of special effect products or they can be found at www.nazdar.com.

Metallic Silver (aluminum), add up to: 8%

Metallic Gold (bronze), add up to: 15%

Chemical reactions in metallic inks may result in viscosity, color and printability changes over time; due to this, mix only enough metallic ink to be used the same day.

Pearlescent / Interference, add up to: 20%

Multi-Chromatic, add up to: 10%

Phosphorescent, add up to: 40%

Fluorescents, add up to: 25%

Fluorescent colors fade quickly with exposure to ultraviolet light.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Item Type	Item Number	Item (or Color) Description
Clears / Varnishes	PA01	Clear
Standard Colors	PA10	White
Standard Colors	PA11	Extra Opaque White
Standard Colors	PA21	Yellow
Standard Colors	PA26	Orange
Standard Colors	PA30	Emerald Green
Standard Colors	PA43	Royal Blue
Standard Colors	PA46	Permanent Blue
Standard Colors	PA49	Purple
Standard Colors	PA52	Bright Red
Standard Colors	PA53	Deep Red
Standard Colors	PA54	Maroon
Standard Colors	PA60	Brown
Standard Colors	PA70	Black
High Opacity Colors	PA700	Opaque Orange
High Opacity Colors	PA701	Opaque Yellow
High Opacity Colors	PA703	Opaque Red
Mixing Colors	PA310	Green
Mixing Colors	PA440	Process Blue
Mixing Colors	PA450	Reflex Blue
Mixing Colors	PA500	Warm Red
Mixing Colors	PA510	Rubine Red
Mixing Colors	PA570	Rhodamine Red

Nazdar PA / Poly-All Series Screen Ink

Mixing Colors	PA580	Magenta
Additives	PA7	Thinner
Additives	PA8	Retarder
Additives	FP460	Flow Promoter
Additives	132661PA	Polyall Adhesion Promoter
Additives	136579PA	Polyall Wiping Solution
Cleaners	IMS201	Premium Graphic Screen Wash
Cleaners	IMS203	Economy Graphic Screen Wash
Cleaners	IMS301	Premium Graphic Press Wash

Nazdar Quality Statement

Nazdar® stands behind the quality of this product. Nazdar® cannot, however, guarantee the finished results because Nazdar® exercises no control over individual operating conditions and production procedures. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life-cycle from printing, post-print processing, and shipment to end-use. This product has been specially formulated for screen printing, and it has not been tested for application by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from Nazdar®.

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