

Nazdar's range of solvent-based, screen printable products for resisting etchants and/or plating solutions. These products are generally used in any industry that needs to etch or plate metals.

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## Primary Resist Type

### Etch Resist:

- 212 Blue: resists mild alkaline and acid etchants. No board pre-treatment required apart from ensuring that the surface is free from oil and grease. 212 is an alkali strippable resist with alkaline etchants.
- 226 Black: maximum resistance to etchants for fine line printability, and strippable with inexpensive caustic solution.

### Plating & Etch Resist:

- 16935PC Black: extremely sharp printing plate resist recommended for long plating cycles. This resist withstands not only most plating solutions, but can be used as a solvent strippable resist with alkaline etchants.
- 182034PC Black: print on various metal stocks, including brass and stainless steel, used in the nameplate and printed circuit board industries. This resist withstands not only most plating solutions but can be used as a solvent strippable resist with alkaline etchants. This resist is easily removed even after relatively high temperature baking.

### Plating Resist:

- 205 Blue: maximum resistance to plating solutions, recommended for long plating cycles, and fine line printability.

## Substrates

- Various metals, such as copper, aluminum, brass and stainless steel

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.

## User Information

### Mesh

Stainless steel mesh or monofilament polyester mesh 165-305 tpi (61-120 tpcm) for most applications.

## Stencil

Use direct emulsions, indirect films and capillary films which are solvent resistant.

## Squeegee

70-80 durometer polyurethane squeegee.

## Coverage

Estimated 1,000 – 1,200 square feet (93 – 110 square meters) per gallon depending upon ink deposit.

## Printing

These inks are formulated to be press ready. Add 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. Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print drying performance.

Users are required to pretest to determine optimum printing performance for a particular set of ink, substrate, screen, press, drying variables/conditions, resist properties, and removal properties.

## Drying Parameters

Production environments and equipment differ from shop to shop; testing must be done before any production run. Good air circulation is necessary to remove the vaporized solvents. Drying time and temperature is dependent upon etching or plating operation.

### 16935PC Black:

- 10 to 45 minutes at 200°F (93°C)

### 182034PC Black:

- 10 to 60 minutes at 200°F (93°C)
- 10 to 15 minutes at 482°F (200°C).

### 205 Blue:

- 10 to 45 minutes at 200°F (93°C)
- 10 to 15 minutes at 482°F (200°C). 205 can be baked at this level but will be very difficult to relieve or strip. If this is an issue, use the 182034PC which can withstand high drying temperatures and remain strippable.

212 Blue:

- 30 minutes to 2 hours at room temperature
- 3 to 6 minutes at 140-176°F (60-80°C)
- 1 to 3 minutes at 212-248°F (100-120°C)

226 Black:

- 2 to 8 hours at room temperature
- 2 to 5 minutes at 250-265°F (121-127°C)

### Common Performance Additives

Any additives should be thoroughly mixed before each use. 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:

$$100\text{g ink} + 8\text{g additive} = 108\text{g total}$$

Reducer/ Thinner: use to reduce the viscosity of these inks. Add up to 10% by weight.

- 16935PC, 205: Use 5500 Thinner
- 182034PC: Use PA7 Thinner
- 212, 226: Use RE180 Thinner

Retarder: use to improve on screen stability in hot, humid production conditions. Add up to 10% by weight.

- 16935PC, 205: Use 5550 Retarder Thinner
- 182034PC: Use PA8 Retarder or 5550 Retarder Thinner
- 212: A retarder is not recommended
- 226: Use RE182 Retarder

### Screen Cleanup

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash, IMS203 Economy Graphic Screen Wash, or IMS206 Graphic Auto Screen Wash.

Press Wash (On Press): Use 2555 Screen Wash or IMS301 Premium Graphic Press Wash.

### Resists Properties

16935PC Black: This resist withstands not only most plating solutions, but can be used as a solvent strippable resist with alkaline etchants. For alkali strippable resists with alkaline etchants, see 212 Blue.

182034PC Black: Withstands most plating solutions and alkaline etchants. This resist ink is easily removed even after baking at relatively high temperature.

205 Blue: This ink has a maximum resistance to plating solutions and is recommended for long plating cycles.

212 Blue: Mild alkaline and acid etchants including: ferric chloride, ammonium persulphate, nitric acid, cupric chloride, chromic / sulfuric acid, and hydrochloric acid.

226 Black: provides maximum resistance to etchants.

### Resist Ink Stripping

It is recommended that resist inks be removed as soon as possible after etching or plating.

16935PC Black, 205 Blue: Solvent strippable - use chlorinated solvents such as trichloroethylene or xylol.

182034PC Black: Solvent strippable - use Xylene (2555 Screen Wash)

212 Blue: Spray or dip in a 4-7% sodium hydroxide solution. Rinse board thoroughly with water and dry.

226 Black: Alkali strippable - spray with 1-4% sodium hydroxide solution, or spray with an 8-10% solution of sodium hydroxide (10% maximum), to soften the ink and remove with a separate water rinse. The sodium hydroxide solution should be maintained at 100-120°F (38 - 48°C) although good results have been obtained at room temperature.

### 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. Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.

### General Information

#### Ink Handling

All personnel mixing and handling these products must wear gloves and eye protection. Clean up spills immediately. If ink does come in contact with skin, wipe ink off with a clean, dry, absorbent cloth (do not use solvent or thinner). Wash the affected area with soap and water. Consult the applicable [Safety Data Sheet](#) (SDS) for further instructions and warnings.

Solvent-Based Screen Ink

# Nazdar Etch & Plating Resist Screen Inks



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

## Manufacturer's Product Offering

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.

## Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Item Number	Color
16935PC	Black
182034PC	Etch Resist Black
205	Blue
212	Blue
226	Black

## Additives / Reducers

Item Number	Description
PA7	Polyall Thinner
PA8	Retarder
RE180	Thinner
RE182	Retarder
5500	Thinner
5550	Retarder Thinner

## Cleaners / Clean Up

Item Number	Description
IMS201	Premium Graphic Screen Wash
IMS203	Economy Graphic Screen Wash
IMS206	Graphic Auto Screen Wash
IMS301	Premium Graphic Press Wash
2555	Screen 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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## Nazdar Ink Technologies Offices Worldwide

**Nazdar Ink Technologies** -World Headquarters  
8501 Hedge Lane Terrace  
Shawnee, KS 66227-3290 USA  
Toll Free US: 866-340-3579  
Tel: +1 913-422-1888  
Fax: +1 913-422-2296  
E-mail: [NazdarOrders@nazdar.com](mailto:NazdarOrders@nazdar.com)  
Technical Support E-mail: [InkAnswers@nazdar.com](mailto:InkAnswers@nazdar.com)

**Nazdar Limited** – EMEA  
Barton Road, Heaton Mersey  
Stockport, England SK4 3EG  
Tel: + (44) 0-161-442-2111  
Fax: + (44) 0-161-442-2001  
UK Technical Service E-mail: [technicalservicesuk@nazdar.com](mailto:technicalservicesuk@nazdar.com)

**Nazdar** – Asia Pacific  
11 Changi North Street 1 #03-03/04  
Singapore 498823  
Tel: +65-63854611  
Fax: +65-65433690  
E-mail: [aspac@nazdar.com](mailto:aspac@nazdar.com)

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