

PowerPrint® Renew 1400 is Nazdar's first UV screen ink developed to contain raw materials made from renewable resources rather than from fossil fuels. Measured by an independent lab using ASTM D6866 method, Renew 1400 contains 20% biobase or renewable resource materials. Renew 1400 provides the ink solution as part of a 'Green' Point-of-Purchase print product offering and a company's Corporate Sustainability Practices.

PowerPrint® Renew 1400 is targeted to be used for indoor and outdoor graphic printing.

SUBSTRATES Styrene, coated paper, rigid vinyl, some vinyl banner

USER INFORMATION

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. See full disclaimer at the end of the document.

MESH 355-420 tpi (140-165 tpcm) monofilament polyester mesh for most applications

STENCIL Solvent resistant, UV ink compatible direct emulsions and capillary films

SQUEEGEE 70-90 durometer polyurethane squeegee

COVERAGE 3,200-4,200 square feet (295-390 square meters) per gallon depending upon ink deposit

PRINTING PowerPrint® Renew 1400 Series ink is formulated to be press ready. Thoroughly mix the ink prior to printing.
Maintain ink temperature at 65°-90° F (18°-32° C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing both flow and cure. Elevated temperatures lower the ink viscosity, reducing print definition, film thickness and opacity.
Pretest to determine optimum printing performance for a particular set of ink, substrate, screen, press, and curing variables/conditions.

CURE PARAMETERS PowerPrint® Renew 1400 Series ink cures when exposed to a medium pressure mercury vapor lamp set at 200 watts per inch with millijoules (mJ) and milliwatts (mW) of:
100-130 mJ/cm² @ 600+ mW/cm² (highly pigmented colors require higher UV output)
These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions.
To increase mJ levels, slow down the belt speed or scan speed. To increase mW levels, increase the wattage setting of the UV reactor. To optimize mJ and mW output, maintain the bulb and reflector condition and focus to the substrate.
The values mentioned above are representative of measurements taken using an EIT UVICURE Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mW readings with the UVICURE Plus, reduce the belt speed to less than 40 ft/min.
Note: Porous substrates can allow ink to dive below the surface, requiring a more thorough cure to overcome the added ink deposit thickness.

CLEARs

Mixing Clear: Use 1426 Mixing Clear to reduce the intensity of colors or as a clear base for specialty additives such as Metallics, Fluorescents, and Pearlescents.

Overprint Clear: Use 1427 Overprint Clear to provide added surface protection and extend the durability.

ADDITIVES

All additives should be thoroughly mixed into the ink before each use. Prior to production, test any additive adjustment to the ink.

Adhesion Promoter: Use NB80 UV Adhesion Promoter to enhance adhesion on treated polypropylene and polyethylene. Add up to 5% by weight. Improved adhesion will not be demonstrated for 24 hours, with full cross linking in 4-7 days. Ink mixed with NB80 UV Adhesion Promoter has a 4-8 hour pot life.

CLEAN UP

Screen Wash (Prior to Reclaim): Use IMS203 Economy Graphic Screen Wash or IMS207C Graphic Recirculating Wash.

Press Wash (On Press): Use IMS301 Premium Graphic Press Wash.

STORAGE

Store tightly covered at temperatures between 65°-90°F (18°-32°C). Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.

GENERAL INFORMATION

INK HANDLING

Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If ink 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 PowerPrint® Renew 1400 Series Material Safety Data Sheet for further instructions and warnings.

PowerPrint® Renew 1400 Series is a one-part, 100% solids UV-curable screen printing ink which does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).

ADHESION TESTING

Even when recommended UV energy output levels are achieved, it is imperative to check adhesion on a **cooled down** print:

1. Thumb twist – the ink surface will not mar or smudge.
2. Scratch surface – the ink surface will resist scratching. Coated paper substrates scratch easily, so use magnification to determine if scratches are ink only or ink and substrate.
3. Cross hatch tape test – 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, wait for 1 minute and rip off at a 180 degree angle. Ink should only come off in actual cut areas.

WEATHERING / OUTDOOR DURABILITY

At full strength and properly cured, PowerPrint® Renew 1400 Series colors are formulated to provide 1 year outdoor durability when mounted vertically in the Central U.S.A. The use of 1427 Overprint Clear increases outdoor durability.

Outdoor durability cannot be specified exactly. Slight color change and loss of gloss should be expected. Variables affecting a printed part's durability include:

- Ink film thickness and degree of curing
- Color formulation:
 - Adding large amounts of mixing clear or white to any color
 - Mixing several colors to achieve a specific color
 - Mixing a small quantity of any single color with any other color
- Substrate type and age
- Mounting angle or directional orientation
- Geographical location
- Air pollution and exposure to excessive abrasion (for example, brush car washes)

Exceptions: 14EC142, 14EC143, 14EC152, and 14EC153 halftones have a projected 6 months outdoor durability. For halftones that are 1 year durable, contact Nazdar.

PRODUCT OFFERING

PANTONE MATCHING SYSTEM® BASE COLORS

360 Series Colors: the Pantone Matching System® Base Colors are used to simulate the Pantone® Color Formulation Guide. These inks are press ready, can be used in matches to achieve Pantone® color simulations, or let down with 1426 Mixing Clear.

HALFTONE COLORS

Halftone Extender Base is used to reduce the density of any of the halftone colors.

Standard Halftone Colors are formulated with hues and densities matched to the requirements of the graphics industry.

Dense Halftone Colors are formulated with increased densities over the Standard Halftone densities and are designed for printers that want to have the latitude to adjust the density levels of their halftone inks.

High Intensity Halftone Black has been developed to function as a dense halftone and line color in a single pass.

Yellow (RS) Halftone Colors are intended to better facilitate matching redder shades without blending Halftone Magenta into the Halftone Yellow.

STANDARD PRINTING COLORS

The Standard Printing Colors have excellent opacity, flow characteristics and are intended to work well from the container.

PACKAGING

Special order colors: all items listed below are non-inventoried items and may require additional lead time. These items are available in gallon containers.

Item Number	Standard Printing Colors	Item Number	Pantone Matching System® Base Colors
1410	Primrose Yellow	14358	Tinting White
1411	Lemon Yellow	14359	Tinting Black
1412	Medium Yellow	14360	Orange
1413	Emerald Green	14361	Yellow
1419	Fire Red	14362	Warm Red
1420	Brilliant Orange	14363	Rubine Red
1426	Mixing Clear	14364	Rhodamine Red
1427	Overprint Clear	14365	Purple
1452	Super Opaque Black	14366	Violet
1467	Reflex Blue	14367	Reflex Blue
1468	Process Blue	14368	Process Blue
1475	Super Opaque White	14369	Green
1478	High Intensity White		
1479	High Intensity Black		

Item Number	Standard/Dense Halftone Colors MTR (Medium Tack Rheology)	Item Number	Standard/Dense Halftone Colors MTR (Medium Tack Rheology)
14140	Halftone Extender Base (MTR)	14151	Halftone Cyan Dense (MTR)
14141	Halftone Cyan (MTR)	14EC152	<i>Economy</i> Halftone Magenta Dense (MTR)
14EC142	<i>Economy</i> Halftone Magenta (MTR)	14EC153	<i>Economy</i> Halftone Yellow Dense (MTR)
14EC143	<i>Economy</i> Halftone Yellow (MTR)	14154	Halftone Black Dense (MTR)
14144	Halftone Black (MTR)	14155	Halftone Yellow Dense RS (MTR)
		14156	High Intensity Halftone Black (MTR)

PACKAGING

Additives/Reducers are available in liters.
Cleaners are available in gallon containers.

Item Number	Additives/Reducers	Item Number	Cleaners
NB80	UV Adhesion Promoter	IMS203	Economy Graphic Screen Wash
		IMS207C	Graphic Recirculating Wash
		IMS301	Premium Graphic Press Wash



POWERPRINT® RENEW 1400 UV SCREEN INK

TECHNICAL DATA SHEET

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®.

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

Nazdar Worldwide Headquarters
8501 Hedge Lane Terrace, Shawnee, KS 66227-3290 USA
Toll Free: 866.340.3579 or Tel: 913.422.1888 Fax: 913.422.2296
e-mail: custserv@nazdar.com

Nazdar Limited
Barton Road, Heaton Mersey, Stockport, England SK4 3EG
Tel: + (44) 0.161.442.2111 Fax: + (44) 0.161.442.2001
e-mail: technicalservicesuk@nazdar.com

<http://www.nazdar.com>