

Nazdar RA3000 UV Gloss Roller Coat Clear

RA3000 Liquid Lamination Clear is a UV curable protective coating to enhance the abrasion resistance of digitally printed graphics. This product shows excellent clarity and flow-out properties. The primary features of this product are as follows:

- **Designed for indoor and outdoor durable decal applications**
- **Excellent adhesion on most self-supporting flexible vinyls and pressure sensitive vinyls**
- **Fast curing characteristics minimize the risk of “blocking”**

Substrates

Flexible vinyl (PVC)
Pressure sensitive vinyl (PVC)
Pressure sensitive calendered vinyl (PVC)
Pressure sensitive cast vinyl (PVC)
Top coated / Print treated polyester (PET)

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.

Applications

Coating is designed for roller coat liquid lamination applications.

It is recommended to achieve a cured print film thickness of 10+ microns for optimum outdoor durability (see Weathering).

Roller Coat Printing

Ink is formulated to be ready for use. Thoroughly mix the ink prior to applying. Improper mixing can lead to inconsistent flow 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 film thickness.

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

The ink can be affected by stray UV light. Be aware of skylights, windows and overhead lights curing the ink on the roller; light filters are recommended. Leaving a container uncovered may result in the ink's surface forming a “skin”, caused by reaction with ambient lighting. Keep containers covered.

Nazdar does not recommend inter-mixing of RA3000 with other inks.

Cure Parameters

Mercury Vapor UV Curing: Standard ink cures when exposed to a single medium pressure mercury vapor lamp emitting output millijoules (mJ) and milliwatts (mW) of:

100mJ/cm² @ 600+ mW/cm² UVA

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions. “Undercuring” the ink may result in poor adhesion, lower block resistance, reduced durability, and higher residual odor. “Overcuring” the ink may reduce the flexibility of the printed part and adhesion of subsequent ink layers.

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, and ensure proper focus to the substrate.

These guidelines are representative of measurements taken using an EIT® UVICURE® Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mJ readings with the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

Adhesion Testing

When recommended UV energy output levels are achieved, checking the degree of cure on a **cooled down** print is imperative:

- 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.

Nazdar RA3000 UV Gloss Roller Coat Clear

Full adhesion characteristics at proper cure levels are demonstrated within: 4 hours

Cleanup

If suitable with equipment supplies, Nazdar recommends using IMS301 Premium Graphic Press Wash or 60053209RH Roller Coat Cleaner for clean up. Before using cleaning products, verify with equipment supplier that the products are suitable for use with rollers.

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.

Coating is a one-part, 100% solids UV-curable ink and does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).

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).

Weathering / Outdoor Durability

Clear is designed for outdoor resistance to yellowing:

Color permanence is mainly dependent on the quality of inks used to print the graphics. When applied to durable cast vinyl at a cured film thickness of 10+ microns, coatings are anticipated to provide 36-42 months of service life to printed graphics mounted vertically in Central USA.

Designed for maximum outdoor resistance to yellowing and chemical attack caused by the combined effects of UV degradation and environmental pollution.

Some loss of gloss over this period should be expected.

Due to the wide variance of laydowns and film thicknesses observed with most roller coaters, no warranty is offered or supplied for these applications by Nazdar.

Outdoor Durability Variables

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
- Substrate type and age
- Mounting angle and directional orientation
- Geographical location
- Degree of air pollution
- Excessive abrasion

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 supplied in 1-gallon (4/5 kilo) containers or smaller. Useable for a period of at least **24 months** from the date of manufacture.

Standard items supplied in 2 to 5-gallon (6-20 kilo) containers: Useable for a period of at least **6 months** from the date of manufacture.

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.

Packaging / Availability

Contact your Nazdar distributor for product availability and offering.

Nazdar RA3000 UV Gloss Roller Coat Clear

Item Type	Item Number	Item (or Color) Description
Standard Colors	RA3000	UV Gloss RC Clear
Cleaners	60053209RH	SPL Roller Coat Cleaner

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®.

Nazdar Ink Technologies Offices

Nazdar Ink Technologies - World Headquarters
8501 Hedge Lane Terrace
Shawnee, KS 66227-3290 USA
Toll Free US: 866-340-3579
Tel: +1 913-422-2255
Fax: +1 913-422-2296
Customer Service E-mail: NazdarOrders@nazdar.com
Technical Support E-mail: TechSupport@Nazdar.com

Nazdar Limited – EMEA
Battersea Road, Heaton Mersey
Stockport, England SK4 3EA
Tel: + 44 (0)-161-442-2111
Fax: + 44 (0)-161-442-2001
EMEA Customer Service E-mail: infoUK@nazdar.com
EMEA Technical Service E-mail: technicalservicesUK@nazdar.com

Nazdar – Asia Pacific
11 Changi North Street 1
#03-03/04
Singapore 498823
Tel: +65 6385 4611
E-mail: aspac@nazdar.com