Technical Data Sheet

Nazdar NSC9001 UV Roller Coating Clear

NSC9001 UV Roller Coat Exterior Clear is a unique UV curing, roller coat clear designed to adhere over latex digital inks used on interior and exterior vinyl decals. NSC9001 provides flexibility, uniform gloss, chemical resistance, and weather resistance when printed over latex digital inks.

Substrates

Pressure sensitive cast vinyl (PVC)

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 UV curing roller coat liquid lamination applications.

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 NSC9001 with other inks.
A cured print film thickness of 10+ microns is recommended for optimum outdoor durability (see Weathering).

Cure Parameters

Cures when exposed to a single medium pressure mercury vapor lamp emitting millijoules (mJ) and milliwatts (mW) of:
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.

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. Recommendations:

IMS301 Premium Graphic Press Wash. *Do not use 100% IPA Alcohol
60053209RH

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.

Weathering / Outdoor Durability
When latex digital inks rated for 3 years durability are printed at full strength and properly cured, NSC9001 Roller Coating Clear is formulated to provide up to an additional **24 months** outdoor durability on premium vinyl decals when mounted vertically in the Central U.S.A.

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
- Color formulation: large amounts of mixing clear or white, mixing several colors into one match, and/or mixing a small quantity of any single color
- Substrate type and age
- Mounting angle and directional orientation
- Geographical location
- Degree of air pollution
- Excessive abrasion
- Non-clear coated prints exhibit more color change and loss of gloss.
- Color:
    Using digital latex ink colors not rated for 3-year durability.
    Using digital latex ink colors below recommended color strength.

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.

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.

Packaging / Availability
Contact your Nazdar distributor for product availability and offering.

Item Type	Item Number	Item (or Color) Description
Standard Colors	NSC9001	UV Roller Coat Exterior Clear

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