ADE SERIES
EPOXY SCREEN INK

TECHNICAL DATA SHEET

ADE Epoxy Screen Ink has been formulated with high quality epoxy resins for excellent adhesion to metals, glass and a wide range of hard-to-print substrates. ADE Series is ideal for electronic and industrial applications and provides outstanding solvent, chemical and abrasion resistance.

ADE is a two-part ink and must be initiated with a catalyst prior to use. ADE ink exhibits a high gloss finish.

ADE Series is for indoor applications only.

SUBSTRATES	Epoxy, melamine, treated polyethylene, treated polypropylene, metals, glass, PC boards

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	200-305 threads per inch (78-120 threads per centimeter) monofilament polyester mesh or stainless steel mesh for most applications
STENCIL	Solvent resistant direct emulsions and capillary films
SQUEEGEE	70-80 durometer polyurethane squeegee
COVERAGE	1200-1800 square feet (111–167 square meters) per gallon depending upon ink deposit
PRINTING	*Ink Preparation:* Add 1 part ADE677 Catalyst to 5 parts ADE ink by weight. Allow the catalyzed ink mixture to stand for a period of about 30 to 45 minutes. This time lag, referred to as the "induction period," is necessary to allow the catalyst to become uniformly mixed and available for the polymerization (cross linking) process. Pot life of the catalyzed ADE ink is approximately 6 to 8 hours. 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 inks prior to printing. Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print drying performance. Lower temperatures increase the ink viscosity, impairing both flow and drying. 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 drying variables/conditions.

DRYING/ CURING

ADE Series dries to touch by solvent evaporation in approximately 30-60 minutes at room temperature or force-dry for 3-5 minutes at temperatures of 150º-180ºF (66º-83ºC). Room temperature drying may take 5-7 days or more for complete cure. Good air circulation is necessary to remove the vaporized solvents. Multiple layers of ink may require longer drying times than a single layer.

Most ADE printed colors may be baked for 10 minutes at 300º - 325ºF (150º - 164ºC).

Exceptions: ADE10 Primrose Yellow, ADE11 Lemon Yellow, ADE12 Medium Yellow ADE20 Brilliant Orange, ADE80 Process Yellow, ADE361 Yellow and ADE456 Process Blue. These colors may be baked at 150º - 250ºF (66º - 121ºC) for 10 minutes.

Note: Pigments used in these colors are not stable at temperatures above 250°F (121°C). Baking these colors above the recommended temperatures will result in color change, bleeding and/or discoloration. Overprinting these colors with other colors which can take higher temperatures (such as white), and baking at higher temperature is not recommended.

Baking ADE prints will produce the hardest, most durable finish.

Baking ADE inks at temperatures over 325ºF (164ºC) may result in discoloration and/or yellowing.

CLEARS / VARNISHES

Mixing Clear / Metallic Mixing Clear: Use ADE26 Mixing/Metallic Clear to reduce the density of colors or as a clear base for specialty additives such as Metallics.

Heavy Body Base: ADE90 Heavy Body Base may be added to ADE inks when printing halftones and fine details.

ADDITIVES

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

Reducer: Use RE190 Thinner or RE189 Slow Thinner to reduce the viscosity of these inks for best printing results. Add up to 15% by weight.

Retarder: To prevent drying in the screen during hot humid conditions, add RE182 Retarder sparingly.

Catalyst: Use ADE677 Catalyst, add 1part catalyst to 5 parts ink by weight. Ink mixed with ADE677 has a 6 to 8 hour pot life.

Glass Catalyst: For printing on glass, ADE678 Glass Catalyst may be added to the ADE inks using 1 part ADE678 to 5 parts ADE ink. Allow for the "induction period" as described above. Prints may be air dried but will require 7-10 days for full cure and maximum adhesion, chemical and water resistance. Ink mixed with ADE678 has a pot life of 6 to 8 hours.

Snow Board Catalyst: For printing on polyethylene materials used in the lamination and manufacture of snow skis and snowboards, the ADE679 Snowboard Catalyst may be mixed into the ADE inks. Use 1 part ADE679 to 5 parts ADE ink. Allow for the "induction period" as described above. Prints may be air dried or force air dried at lower temperatures which do not affect the snowboard material. Prints should be racked and allowed to chemically react at least 4 days before laminating. Ink mixed with ADE679 has a pot life of 6 to 8 hours.

CLEAN UP

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen 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	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 ADE Series Material Safety Data Sheet for further instructions and warnings.
ADHESION TESTING	1. Touch of ink surface – the ink will be smooth and slick. 2. Thumb twist – the ink surface will not mar or smudge. 3. Scratch surface – the ink will resist scratching. 4. 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.

PRODUCT OFFERING

STANDARD PRINTING COLORS	The Standard Printing Colors have excellent opacity.
PANTONE MATCHING SYSTEM® BASE COLORS	The Pantone Matching System® Base Colors are used to simulate the Pantone® Color Formulation Guide. These inks can be used in matches to achieve Pantone® color simulations, or let down with mixing clear. The ColorStar® Color Management System software uses Pantone Matching System® Base Colors. These color formulations are also available at www.nazdar.com.
MIXING COLORS	The Mixing Colors may be used in color matching.

SPECIAL ADDITIVES

When inks are to be printed over a special effect color, the overprinting ink(s) 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.

The following special effect pigments may be added to the ADE inks. These pigments are available in 1-pound containers. Contact Nazdar for the item number(s) and availability of each special effect product. Pigments may settle in the container; prior to printing, thoroughly mix the ink.

Silver (aluminum) Metallic: add up to 8% by weight.

Gold (bronze) Metallic: add up to 15% by weight.

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

Pearlescents / Interference Pigments: add up to 20% by weight.

Multi-Chromatic Pigments: add up to 10% by weight.

See the Pearlescent, Interference, and Multi-Chromatic Technical Data Sheets for more information.

Phosphorescents: add up to 20% by weight.

Fluorescents: add up to 25% by weight. Fluorescent colors fade quickly with exposure to ultraviolet light

COLOR CARD MATERIALS

The following is a list of screen printed samples available.

Conventional Color Card: shows the Standard Printing Colors, Pantone Matching System® Base Colors and some Mixing Colors.

Special Effects Color Card: shows Metallic, Pearlescent, Interference, and Multi-Chromatic effects mixed with clear

PACKAGING All items listed below are available in quart and/or gallon containers.

	Stock Number	Standard Printing Colors
*	ADE10	Primrose Yellow
*	ADE11	Lemon Yellow**
*	ADE12	Medium Yellow
	ADE15	Yellow (GS)
	ADE16	Yellow (RS)
	ADE19	Fire Red
*	ADE20	Brilliant Orange
	ADE22	Ultra Blue**
	ADE26	Mixing/Metallic Clear
	ADE52	Opaque Black
	ADE62	Warm Red
	ADE67	Reflex Blue
	ADE75	Opaque White
	ADE78	High Intensity White

	Stock Number	Pantone Matching System® Base Colors
	ADE358	Tinting White
	ADE359	Tinting Black
	ADE360	Orange
*	ADE361	Yellow
	ADE362	Warm Red
	ADE363	Rubine Red
	ADE364	Rhodamine Red
	ADE365	Purple
	ADE366	Violet
	ADE367	Reflex Blue
	ADE368	Process Blue
	ADE369	Green

	Stock Number	Mixing Colors
*	ADE80	Process Yellow
	ADE82	Carmine
	ADE83	Magenta
	ADE85	Green
	ADE86	Blue (GS)
	ADE87	Blue (RS)

	Stock Number	Mixing Colors
	ADE88	Violet
	ADE89	Red Toner
	ADE90	Heavy Body Base
*	ADE456	HT Process Blue
	ADE586	Permanent Process Red

*These colors are not recommended for baking temperatures over 250ºF (121ºC).

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PACKAGING Additives/Reducers are available in quart and/or gallon containers. Catalysts are available in quarts containers. Cleaners are available in 1-gallon, 5-gallon and 55-gallon containers.

Stock Number	Additives/Reducers
ADE677	Catalyst (quarts only)
ADE678	Glass Catalyst (quarts only)
ADE679	Snowboard Catalyst (quarts only)
RE182	Retarder
RE189	Slow Thinner
RE190	Thinner

Stock Number	Clean Up
IMS201	Premium Graphic Screen Wash
IMS301	Premium Graphic Press Wash

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 pr inting, 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.

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