

## ER Series – Epoxy Screen Ink

Code Ref: D433

technical information and application instructions

<b>Substrates</b>	This is a 2-pack catalyst system. A gloss finish, polymerization ink suitable for printing on treated polyethylene containers, phenolics, polyesters, melamine, ceramics, ferrous & non-ferrous metals, and glass. Has good resistance to solvent and chemical attack however will not withstand boiling water. In all cases adequate pre-testing must be done to ensure adhesion is good and resistance to chemicals is adequate for the job in question.
<b>End Uses</b>	When the polyethylene used for the containers contains anti-static agents (amines); this could lead to loss of adhesion on aging. Prints have good brake fluid, alcohol resistance and resistance to many chemicals. Adequate testing by the end user is essential.

### Product Information

ER Series is a two-pack catalysed ink system designed to print on polyethylene containers. This is a non-convertible ink system. Do not let this product dry on the screen as it cannot be rewet with solvents. Your screen will be permanently blocked if it is left for too long.

### Application 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 end of document.*

<b>Mesh</b>	90T to 120T mesh recommended.
<b>Stencil</b>	All direct photo emulsions, photo stencil films and hand cut stencil films that are solvent resistant.
<b>Squeegee</b>	Sharp edge 70-80 durometer polyurethane blades as well as triple durometer blades that produce an even ink deposit.
<b>Coverage</b>	Approximately 20-25sq. meters per kg of ink – 90T mesh.
<b>Printing</b>	<i>See below for catalyst mixing instructions.</i> ER Series - EPOXY Screen Inks dry to a gloss finish.

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**Drying / Curing** 90 seconds at 80°C. Air dry 1 – 3 hours. This is for physical drying, not full curing.

80°C	30 – 45 minutes
120°C	10 – 15 minutes
150°C	7 – 10 minutes

Air drying – full curing is only achieved after 7 – 10 days when maximum adhesion and chemical resistance is displayed.

**Cleaners / Extenders / Additives****Thinner** Use Epoxy Thinner/Wash - N665 S280**Retarder** Use Epoxy Retarder N665 S282**Extender** D433-A170 Mixing/Overprint Clear may be used to reduce colour strength or as a metallic mixing varnish. (See metallic colours).**Catalyst Selection** Please note that 2 different CATALYSTS are available depending upon end use.

D433-A024 Epoxy Catalyst – the least expensive but does not provide a water-resistant print.

D433-A178 Epoxy Catalyst (Nazdar ADE679/ER178) – the most expensive premium product designed for applications where water resistance is required, also for adhesion to glass.

**Mixing Ratio with Catalyst**

First thoroughly mix colour in its container.  
The mixing ratio is 4 parts ink / 1 part catalyst.

For example: weigh a small quantity of ink – 100 grams, add one quarter the quantity of the selected catalyst – 25 grams.

Mix well and allow to stand for 30 – 45 minutes before using. This time lag, referred to as the 'induction period' is necessary to allow the catalyst to become uniformly mixed and available for the polymerization process.

Only mix quantities of ink that will be used in a 4–5 hour period as the ink will start to gel and become unusable after this time.

It is essential that the end user performs adequate testing on fully cured prints to confirm the suitability for the intended application.

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## Mixing / Overprint Clear

D433-A170 Mixing/Overprint Clear may be used to reduce colour strength or as a metallic mixing varnish. (see metallic colours).

## Metallic Colours

Metallic pigments may be added to the inks as a component of a colour match or to D482-A444 Mixing/Overprint Clear. Due to possible limited shelf life, only mix quantities of metallic ink needed for immediate use. Leafing pigments may show incompatibility to the ink. Excessive amounts of metallic powder will degrade adhesion and the overall performance of the printed ink.

### Recommended Ratios: Metallic Powders

Silver (Aluminium)	8% by weight	80gms powder to 1kg Clear
Gold (Bronze)	15% by weight	150 – 250gms powder to 1kg Clear

**Adhesion Testing** **Cross hatch tape test** – use a cross hatch tool or sharp knife to cut through the ink film only, apply 3M #600 clear tape on cut area, rub down and rip off. Ink should only come off from the actual cut areas.

## Clean Up

N665-S280 – Epoxy Thinners/Screen Wash is recommended.

## Metallic Colours

**NOTE:** *Normal screenwash does not work well due to the nature of the resins used and screens may remain stained or even blocked.*

## General Guidelines

### Ink Handling

All personnel mixing and handling inks must wear gloves and eye protection. Clean up spills immediately. If ink does come in contact with skin, wipe off with a clean, dry, absorbent cloth (do not use solvent or thinner). Wash and rinse affected area with soap and water. Consult the ER Series SDS for further instructions and warnings.

### Storage

Store tightly covered at temperatures between 15°C - 32°C. Ink taken from the press should not be returned to the original container. Store separately to avoid contaminating unused ink.

Shelf life of unopened cans is 2 years from date of manufacture. Stir well before use.

Shelf life of the catalyst is 1 year from date of manufacture.

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## caution

Please proof this ink, reduced to the consistency you wish to adopt, on a sample of the ACTUAL SUBSTRATE you will be printing BEFORE starting a production run.

Give the proof 24 hours to post cure then check for: Abrasion resistance, adhesion, print appearance and correctness of colour. The adequacy of this ink in these properties cannot be fully established on laboratory equipment on a small scale.

*Please note that maximum chemical resistance and adhesion can take 7 – 10 days to be achieved.*

**Keep away from heat and open flame. Use with adequate ventilation. Avoid prolonged or repeated contact with skin. Avoid prolonged breathing of vapour or spray mist. Keep container closed when not in use.**

*GL stands behind the quality of this product. GL cannot, however, guarantee the finished results because GL 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 GL.*

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Last date amended: 7 February 2023