

Nikkalite[®] N3600 series screen print processing information to EN 12899

Introduction

Nikkalite[®] N3600 series pre-screening inks are durable, highly transparent, quick drying screen printing inks, manufactured by Nippon Carbide Industries (NCI), that bond strongly and permanently to Nikkalite retroreflective sheetings.

The following processing instructions should be strictly adhered to for compliance to EN 12899.

NCI cascaded ITT is available for RA1, RA2 and R3B sheetings to support and reduce customers own screen printing ITT.

Nikkalite Sheeting types RA1 8100 and RA2 800 series & Hi-S Cal 4178

N3600 inks may be used without N3631 hardener on 8100 series EG & 800 ULS series sheetings.

If required the hardener can be added to provide a solvent resistance surface.

N3600 colour	Code
Black	N3603
Yellow	N3604
Blue	N3616
Red	N3625
Thinner	N3611
Toner	N3612
Hardener	N3631

Nikkalite Sheeting type R3B 92800 Crystal grade

N3600 inks should always be mixed with N3631 hardener when printing onto 92800 Crystal grade R3B series.

Sheeting type	N3631 hardener
4178 Non- reflective	Optional
8100 RA1 Engineering grade (EG),	Optional
800 RA2 Ultralite Special grade (ULS)	Optional
92800 R3B Crystal grade (CRG)	Necessary

Screen mesh

Polyester monofilament plain weave mesh 62T to 77T/cm is recommended (except for N3625 red onto 8112 sheeting – see below) for compliance to EN 12899-1.

For non-traffic multi coloured or fine detail work such as crests a 71T to 87T/cm mesh may be used and clear coating using a toner to achieve increased durability.

Use 70T to 77T/cm mesh type for N3625 Red onto 8112 White sheeting and thoroughly mix toner in a ratio of 100 parts N3625 Red ink to 25 parts N3612 Toner by weight.

Toner should not be added for any other colours or sheeting types.

Thinner

Nikkalite inks do not normally require dilution due to their pre-adjusted viscosity, however, if necessary only use with Nikkalite[®] N3611 thinner in mixing ratio of 100 parts ink and up to 10 parts thinner as necessary.

N3631 Hardener ratios

Where required N3631 Hardener should be thoroughly mixed in a ratio of 8 parts by weight of hardener to 100 parts of ink by hand mixing for 100 revolutions, or with an electric mixer with an explosion proof motor for one minute.

Processing instructions

Screen printing should be undertaken in a clean separated area with good air extraction and ventilation.

- Set up oscillating fans before printing commences inclined slightly downwards directed on the drying racks over the surface of the printed sheeting to remove solvent and speed up the drying process.
- Set fans too "high" for approximately 30 minutes.
- Provide an air gap between the drying rack shelves of at least 10cm for adequate airflow and to reduce the drying time. Insufficient air circulation and flow may cause fine cracks in the sheeting surface.
- When tunnel drying do not exceed 70°C and place in drying rack afterwards.
- To confirm sign faces are dry for storage, press two screened surfaces together firmly for 5 seconds. Hold close to ear and pull apart. If peeling sound is heard, continue the drying process.

Processing guidance for N3600 series two component inks.

- Calculate amount of ink needed for print run.
- Using postage type scales for weighing accuracy, mix 8 parts hardener to 100 parts of N3600 ink.
- After mixing with hardener inks have a maximum 8 hour pot life - shorter in hot temperatures.
- Prints must be racked for 5-6 hours before stacking and storage (ideally racking should be overnight).
- Ink will not dry completely through a tunnel drier.
- Drying conditions for racked prints; warm and ventilated with good airflow from oscillating fans.
- Screen needs to be cleaned thoroughly immediately after printing. If any residue is left in the mesh it will cure and block the mesh (if this happens then the only solution is a new mesh).

Reliability of information

All recommendations and technical information contained herein are based on experience and tests, which the manufacturer believes to be reliable, but their accuracy and completion are not warranted.

The user is cautioned to undertake testing to determine the suitability of a particular product for the intended application.

Warranty

Nikkalite® products are warranted to be free from defects in materials and workmanship at the time of their sale. Nikkalite® products are sold without any warranty whatsoever, including warranties of merchantability or fitness for a particular purpose. The sole remedy for failure of Nikkalite® products to conform to said warranty is the replacement of the defective products; neither the manufacturer nor the seller shall be liable for any loss, damage or injury, direct or indirect, consequential or incidental, arising from the use of or inability to use said products.

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