

Dense Black Screen Ink 3113 One-pack Screen Ink

Technical Data Sheet

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Smiley 3113 is a one-pack screen ink combining outstanding resistance to many chemicals and solvents with excellent adhesion to an extensive range of 'difficult' surfaces.

- High Opacity / Available in Gloss and Matt
- Excellent Heat Resistance (No adverse temperature effects on colour at 300°C)
- Excellent Adhesion to Tempered Glass
- Excellent Water and Heat resistance
- Outstanding Resistance to many Chemicals and Solvents
- Good Surface Electrical Resistance value
- Low Surface Tension
- Designed for Single Layer and Multilayer Printing
- Halogen Free and RoHS Compliant

Substrates: Tempered Glass, vitreous and stoved enamel surfaces, Aluminium, Brass and other metals.

USER INFORMATION

Mesh: 120-165 Mesh/cm monofilament polyester is recommended for most applications.

Stencil Solvent resistant direct emulsions
Recommended:
6060-216 Dual Cure Graphic Emulsion

Squeegee 70-85 Durometer hardness Polyurethane squeegees

Coverage 70-80 M²/Kilo (140 Mesh/cm) depending upon ink deposit.

Pre-Production Test: Always pretest adhesion and application before each production run, as there can often be significant differences between substrates from different manufacturers and even between different batches of substrates. Pretest to determine optimum printing performance for a particular set of ink, substrate, screen, press, and drying variables/conditions.

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 and film thickness.

Adhesion + Chemical Resistance Promoter Addition of 3113-386 Adhesion and Chemical Resistance Promoter: Increased adhesion and chemical resistance by adding 5% of the promoter.

The final curing takes place over a period of several days to weeks. Only then the prints reach their final hardness and resistance. At first, the ink film is quite flexible. Therefore glass plates can be cut and ground immediately after printing without any risk of splintering of the ink film. After final curing the prints show excellent mechanical abrasion resistance and also sufficient chemical resistance for most requirements.

After addition of the promoter, the ink can be used for approximately 48 hours.

Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print drying performance.

- Stir well before use.
- Gelatinization may occur when pot-life expires, please prepare required quantity only.

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Drying/Curing:

- **Smiley 3113** dries by a combination of solvent evaporation and a chemical reaction between the base and the hardener.

Convection oven Stoving :-

- 200°C for 10 minutes for 1st Layer -3rd Layer printing on Tempered Glass
- 250°C for 30 minutes for final Layer printing on Tempered Glass

Drying and adhesion of ink is affected by :-

- Drying temperature
- Drying time
- Grade and type of the substrate
- Treatment degree of substrate

For satisfactory product resistance to develop, prints should be allowed to age for 4 days after printing at room temperature.

Thinning And Wash-up:

Thinner: Use SPS60004 Thinner to reduce the viscosity of this ink. Add up to 5%-10% by weight.

Wash-up: Use 4050-003 Screen Wash and Cleaner.

GENERAL INFORMATION

Handling & Storage:

- **3113 Series** is formulated free of lead and other heavy metals.
- It is recommended to wear suitable protective gear such as glasses and gloves. Take particular care to avoid splashes into the eyes and skin contact. If the ink comes in contact with skin, wash with soap and plenty of water. If varnish comes in contact with eyes, wash with plenty of water and consult with a doctor.
- Comprehensive information on the safety and handling of **3113 Series** is given in the appropriate Smiley Material Safety Data Sheet (MSDS), which are available upon request.
- Store tightly covered at temperatures between (18°-25°C).
- Tins should be kept tightly closed when not in use.

Environmental Information:-

- Do not contain ozone depleting chemicals.
- **3113 Series** should be disposed properly (see MSDS) and in accordance to local regulations to avoid contamination.

Recommended Stencil Making Products:

- Screen Preparation
 - Mesh Preparation 6050-300 – for abrasion
 - Mesh Degreaser 6050-200 – for degreasing
- Screen Emulsion
 - Dual Cure Graphic Emulsion 6060-216
- Screen Cleaning
 - Ghost Remover 6070-100
 - Stain Remover 6070-001
- Screen Reclaiming
 - Stripping Powder 6070-200

PRODUCT OFFERING:

Packaging:

3113 is available in 1 Kilo, 5 Kilos and 20 Kilos containers.

ADDITIONAL INFORMATION

For additional product information, please visit our website at <http://www.smiley.co.th>. For further information, please contact SPS personnel at medhi@smiley.co.th

Thank you for choosing **SMILEY**.

Smiley Printing Solution Co., Ltd. (SPS), abides by the quality of this product. The information and recommendations that embody this Technical Data Sheet along with the technical advice are based solely on our knowledge and therefore confident to be precise. This product has been specifically formulated for screen printing. SPS cannot guarantee the precision for other possible application for the reason that manufacturing methods and other materials vary. Any liability amalgamated with the use and application of these products, users are the sole bearer of responsibility for choosing appropriate product for end-users' requirement. This Technical Data Sheet is provided for the technical purpose in the usage of this product and users are expected to follow current recommendation.

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