

105 Series — Heat-Curing Silicone Ink



TECHNICAL DATA SHEET

1. Product Description

105 Series is a silicone rubber printing ink designed for high-temperature vulcanized silicone products. Requires catalyst addition and heat curing to achieve excellent adhesion and durability.

The ink provides excellent alcohol resistance, good color stability, and a glossy finish, while maintaining smooth printing performance on compatible silicone substrates.

2. Recommended Substrates & Applications

Recommended for silicone-rubber keypads, buttons, molded silicone products, and other compatible silicone components.

Typical applications include silicone keypads, buttons, wristbands, wearable products, silicone toys and promotional silicone products and other silicone components requiring durable printed graphics.

3. Key Features

- Specially developed for high-temperature vulcanized silicone rubber
- Excellent adhesion after catalyst curing and heat treatment
- Excellent flexibility with crack resistance
- Excellent printability with smooth leveling performance
- Good abrasion resistance and durable print performance
- Suitable for screen printing and pad printing applications

4. Printing Instructions

1. Stir the ink thoroughly before use.
2. Use only odorless kerosene as the thinner. Do not use 783 thinner or cyclohexanone.
3. Recommended thinner addition: approximately 2–5%, adjusted according to viscosity, artwork, printing method, and operating conditions. Catalyst must be mixed thoroughly and evenly with the silicone ink before printing.
4. Prepare the required amount of ink and add 3% catalyst before printing. Mix thoroughly and use within 4 hours after mixing. Do not add catalyst directly into the original ink container.
5. The ink may be applied by screen printing or pad printing on compatible silicone-rubber products.
6. After printing, allow the solvent to flash off for 5–10 minutes before oven curing.

4A. Curing Conditions

Allow the printed part to stand for 5–10 minutes so that the thinner can evaporate.

Oven cure at an actual measured temperature of 160–180°C for 8–10 minutes.

Verify the curing schedule on the actual silicone compound and part geometry before production.

5. Precautions & Storage

1. Use the prepared ink within approximately 4 hours.
2. Do not place printed parts in the oven until the solvent has sufficiently evaporated. Inadequate flash-off may cause bubbles in the cured ink film.
3. Prevent the original ink from contacting reactive materials containing nitrogen, sulfur, phosphorus, or other catalyst-poisoning substances, as they may interfere with curing.
4. Keep containers tightly closed and store in a cool, dry place at 0–10°C.
5. Use suitable personal protective equipment and ensure adequate ventilation during printing and cleaning.
6. Shelf life is 6 months from the date of manufacture when stored in unopened original packaging at the recommended temperature.

6. Technical Reference Data

Test Item	Result	Test Method / Condition
Adhesion	100/100 squares retained	1mm × 1mm cross-cut; 3M tape peel (After catalyst curing)
Flexibility	No cracking or peeling	Bending test
Abrasion Resistance	No ink removal	Manual rubbing test
Alcohol Resistance	No visible change	Alcohol rubbing test
Water Resistance	No visible change	Tap-water immersion at 20°C for
Heat Resistance	No visible change	150°C for 1 h

Note: Performance data is based on internal laboratory tests and may vary depending on substrate and application conditions. Please conduct a trial test before mass production.

7. Compliance Information

Compliance information can be provided according to customer requirements and applicable regulations. Specific regulatory compliance must be confirmed against current test reports for the selected color and target market before making compliance claims.

8. Important Notice

The information in this document is based on internal reference testing and is provided as technical guidance only. Because substrate grades, surface treatments, printing conditions, film thickness, curing, and end-use requirements vary, users must verify suitability through their own trials before production.