

# H635 Series — Two-Component Glass & Metal Ink



## TECHNICAL DATA SHEET

### 1. Product Description

H635 is a two-component solvent-based screen and pad printing ink designed for difficult-to-adhere glass, metal, and coated substrates. Different hardener systems are available for room-temperature self-curing or low-temperature baking applications.

After proper curing, it provides excellent adhesion, abrasion resistance, alcohol resistance, solvent resistance, and long-lasting durability on demanding surfaces.

### 2. Recommended Substrates & Applications

Recommended for glass, metal, ceramics, tinsplate, anodized aluminum, electroplated surfaces, UV-coated surfaces, and PU-coated surfaces.

Surface compatibility should be confirmed before production, as coating formulations and surface treatments may vary significantly.

### 3. Key Features

- Two-component system for enhanced adhesion and durability
- Excellent adhesion on glass, metal, and coated surfaces
- Excellent resistance to alcohol, solvents, and abrasion
- Suitable for self-curing and low-temperature baking applications
- Suitable for screen printing and pad printing

## 4. Printing Instructions

1. Remove dust, oil, and surface contaminants before printing. Anhydrous ethanol or a suitable industrial surface cleaner may be used where compatible with the substrate.
2. Stir the ink thoroughly before use. Select the recommended thinner according to ambient temperature, printing speed, and image requirements. Consult Hongsheng for the appropriate thinner grade.
3. If fine lines or text show spreading, feathering, or blurred edges, add the recommended retarder paste in a controlled amount.
4. Recommended screen mesh: 100–130T. Select the final mesh count according to ink deposit, artwork, and printing conditions.
5. Add the recommended ink hardener before printing. Select C3 for room-temperature self-curing or C7 for oven curing at 80°C for 30 minutes according to production requirements at a weight ratio of 100:15 before printing. Mix thoroughly and prepare only the quantity required for the available working time.

### 4A. Mixing & Curing

Mixing ratio by weight: Ink : C3/C7 Hardener = 100 : 15.

C3 Hardener System – Room Temperature Self-Curing

C7 Hardener System – Oven Curing (80°C × 30 min)

Recommended reference cure(C7 System):

80°C for 30 minutes or 100°C for 20 minutes. Performance may vary depending on the selected hardener system and curing conditions.

The actual curing temperature should be evaluated based on the substrate surface temperature rather than the oven set temperature alone.

## 5. Precautions & Storage

1. Always conduct a production trial before mass printing. Adhesion and resistance may vary with coating chemistry, curing condition, surface contamination, and substrate grade.
2. Typical thinner addition is 10–15%. Adjust viscosity according to printing conditions and the working environment.
3. Use the mixed ink within its validated pot life. Do not return mixed ink to the original container.
4. Drying and curing vary with substrate, ink-film thickness, oven type, and actual workpiece temperature. Confirm the final curing schedule through trials.
5. Flammable product. Keep containers tightly closed and store in a cool, well-ventilated area away from heat, sparks, and open flames.
6. Use suitable personal protective equipment. Avoid skin and eye contact. If the product enters the eyes, rinse immediately with plenty of water and seek medical attention.
7. Shelf life is 12 months from the date of manufacture in unopened original packaging. Re-test suitability before using expired material.

## 6. Technical Reference Data

| Test Item             | Result                                                          | Test Method / Condition                                               |
|-----------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------|
| Ink Fineness          | $\leq 12\ \mu\text{m}$                                          | Grind gauge                                                           |
| Dry-Film Gloss        | $\geq 65\ \text{GU}$                                            | 60° gloss meter                                                       |
| Surface Drying        | Hot air: 40–60°C<br>(Recommended: 50°C)                         | Reference drying condition                                            |
| Full Drying           | Air dry for 24 hours, or<br>oven cure at 80°C for 30<br>minutes | Reference drying condition before<br>forced cure                      |
| Alcohol Resistance    | No visible change                                               | 500 g load; 50 double rubs with<br>an alcohol-saturated cotton pad    |
| Adhesion              | 100/100 squares retained                                        | 1 mm × 1 mm, 100-grid cross-cut;<br>3M tape peel                      |
| Acid Resistance       | No visible change                                               | 5% HCl immersion for 24 h                                             |
| Alkali Resistance     | No visible change                                               | 5% NaOH immersion for 24 h                                            |
| Salt-Water Resistance | No visible change                                               | 5% NaCl immersion for 24 h                                            |
| Water Resistance      | No visible change                                               | Tap-water immersion at 20°C for<br>96 h                               |
| Abrasion Resistance   | No substrate exposure                                           | 500 g load; 2,000 double rubs<br>with an abrasive eraser              |
| Thinner Resistance    | No visible change                                               | Internal reference test; confirm<br>test solvent before specification |
| Heat Resistance       | No visible change                                               | 150°C for 30 min                                                      |

**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

Standard colors in this series can be supplied to meet applicable RoHS, EN 71, and ASTM heavy-metal requirements. Confirm the required regulation, test method, color, and target market before ordering. Supporting test reports are available for selected products upon request.

## 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, drying, and end-use requirements vary, users must verify suitability through their own trials before production.