

H665 Series — Single-Component Air-Drying Metal Ink



TECHNICAL DATA SHEET

1. Product Description

H665 is a glossy, single-component, air-drying metal ink designed for screen printing and pad printing applications on various metal and coated surfaces.

It provides good adhesion, abrasion resistance, and resistance to machine oil and common industrial solvents, making it suitable for industrial metal parts and equipment components.

2. Recommended Substrates & Applications

Recommended for iron, copper, aluminum alloy, galvanized steel, stainless steel, electroplated surfaces, baked coatings, UV-coated surfaces, and PU-coated metal surfaces. Surface compatibility should be confirmed before production, especially for coated and treated surfaces.

Typical applications include machinery housings, metal nameplates, equipment panels, fabricated metal parts, and coated hardware.

3. Key Features

- Single-component system with convenient air-drying performance
- Good adhesion on metal and coated surfaces
- Good resistance to abrasion, machine oil, and common solvents
- Suitable for screen printing and pad printing applications
- No baking required for standard applications

4. Printing Instructions

1. Remove dust, oil, machining fluid, and other surface contaminants before printing. Anhydrous ethanol or a compatible industrial surface cleaner may be used where suitable.
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. Allow the printed ink film to dry completely before performance testing. Drying time depends on substrate temperature, film thickness, and ventilation.

5. Precautions & Storage

1. Always conduct a production trial before mass printing. Confirm adhesion and resistance on the actual metal, coating, or plated surface.
2. Large machinery housings and fabricated metal parts may retain machining oil or protective oil. Thorough degreasing is essential before printing.
3. Typical thinner addition is 20–30%. Adjust viscosity according to the actual printing environment and process requirements.
4. Drying time varies with substrate, film thickness, temperature, and ventilation. Confirm the required drying schedule before production.
5. Flammable product. Keep the container 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 (Recommended: 50°C)	Reference drying condition
Full Drying	Air dry for 24 hours (reference condition)	Reference drying condition
Impact Resistance	No visible damage	500 g weight dropped from 50 cm; internal reference method
Pencil Hardness	3H	500 g load at 45°
Chemical Resistance	No visible change	Alcohol / solvent rubbing test
Adhesion	100/100 squares retained	1 mm × 1 mm, 100-grid cross-cut; 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
Abrasion Resistance	No substrate exposure	Manual rubbing test

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