

H646Series — Non-Corrosive Plastic Ink



TECHNICAL DATA SHEET

1. Product Description

H646 is a single-component, room-temperature air-drying ink developed for solvent-sensitive plastic substrates, especially PS and PC.

It provides good leveling, high opacity, and rich color while helping reduce substrate whitening, cracking, crazing, and haze caused by aggressive solvent attack.

2. Recommended Substrates & Applications

Recommended for PS, PC, PVC, ABS, and PMMA.

Typical applications include transparent or appearance-sensitive plastic parts, housings, panels, nameplates, and molded components.

3. Key Features

- Non-aggressive solvent system for sensitive plastics
- Helps reduce whitening, cracking, crazing, and haze
- Good leveling and reliable adhesion
- Room-temperature air drying or low-temperature oven drying

4. Printing Instructions

1. Remove dust, oil, mold-release residue, and other contaminants from the substrate before printing.
2. Stir the ink thoroughly before use. Use only the recommended S-7 or S-8 non-aggressive thinner according to ambient conditions and printing requirements.
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: 100–200T. Select the final mesh count based on ink deposit, artwork, and printing conditions.
5. Allow the printed ink film to fully cure before final performance evaluation. Air dry for 24 hours at room temperature, or oven cure at 80°C for 30 minutes.

5. Precautions & Storage

1. Always conduct a production trial before mass printing. Confirm that the ink does not cause whitening, cracking, crazing, or haze, and verify adhesion and all required performance properties.
2. Typical thinner addition is 20–30%. Use only the recommended thinner system.
3. Do not add strong solvents, unrelated inks, or hardeners. Incompatible additives may attack or stress-crack the substrate.
4. Drying time varies with substrate, ink-film thickness, temperature, and ventilation. Confirm adequate drying before further processing or testing.
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, or oven cure at 80°C for 30 minutes	Reference drying condition
Plastic Stress Cracking Resistance	No cracking or whitening observed	Printed on stress-sensitive PC substrate
Substrate Compatibility	No substrate damage or deformation	Visual inspection after printing
Adhesion	Substrate dependent	1 mm × 1 mm cross-cut; 3M tape peel
Water Resistance	No visible change	Tap-water immersion at 20°C for 96 h
Heat Resistance	No visible change	80°C for 12 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

The basic colors and process colors in this series can be supplied to meet applicable EU RoHS, EN 71, and ASTM heavy-metal requirements. Confirm the required standard, test method, color, and target market before ordering.

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.