

H633 Series — PP Alcohol & Abrasion Resistant Ink



TECHNICAL DATA SHEET

1. Product Description

H633 is a single-component, low-odor solvent-based ink specially developed for polypropylene (PP), polyethylene (PE), and other low surface energy plastic substrates requiring enhanced adhesion and durability.

It provides excellent adhesion, alcohol resistance, abrasion resistance, and gasoline resistance for PP plastic parts and other treated plastic components, while maintaining smooth screen printing and pad printing performance.

2. Recommended Substrates & Applications

Recommended for PP containers, PP caps, PP housings, PP sheets, PE parts, synthetic paper, and other surface-treated low surface energy plastic substrates. For untreated PP substrates, surface treatment may be required to achieve optimum adhesion.

Depending on the substrate surface energy and additive content, corona, flame, or chemical surface treatment may be required.

3. Key Features

- Excellent adhesion on treated PP, PE, and other low surface energy plastic substrates
- Excellent resistance to alcohol, abrasion, and gasoline
- Good durability for PP plastic parts requiring long-lasting printed graphics
- Compatible with common PP surface-treatment methods, including corona and flame treatment
- Suitable for screen printing and pad printing applications

4. Printing Instructions

1. Remove dust, oil, mold-release residue, and other contaminants from the substrate before printing.
2. For untreated or difficult-to-adhere PP substrates, apply PP-P1 surface treatment agent before printing. Allow the treated surface to dry completely before ink application.
3. Stir the ink thoroughly before use. Select S-8 Fast-Drying Thinner, S-6 Medium-Drying Thinner, or S-9 Slow-Drying Thinner according to ambient temperature, printing speed, and image requirements.
4. If fine lines or text show spreading, feathering, or blurred edges, add the recommended retarder paste in a controlled amount.
5. Recommended screen mesh: 100–130T. Select the final mesh count according to ink deposit, artwork, and printing conditions.
6. Dry naturally above 15°C, or use oven drying at approximately 80°C. Confirm the final drying schedule through production trials.

5. Precautions & Storage

1. Always conduct a production trial before mass printing. Adhesion and resistance may vary with resin grade, surface additives, molding conditions, and surface energy.
2. Some PP or PE surfaces may require corona treatment, flame treatment, or a compatible PP surface treatment agent before printing. Confirm the required pretreatment by adhesion testing.
3. Typical thinner addition is 20–30%. Adjust viscosity according to the actual printing environment and process requirements.
4. Drying time varies with substrate, ink-film thickness, temperature, and ventilation. Confirm adequate drying before performance testing or further processing.
5. Do not mix with unrelated ink systems. Prepare metallic gold or silver shades immediately before use and use them within the recommended working period.
6. Flammable product. Keep the container tightly closed and store in a cool, well-ventilated area away from heat, sparks, and open flames.
7. 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.
8. 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
Alcohol Resistance	No visible change	500 g load; 100 double rubs with an alcohol-saturated cotton pad
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
Salt-Water Resistance	No visible change	5% NaCl immersion for 24 h
Water Resistance	No visible change	Tap-water immersion at 20°C for 96 h
Abrasion Resistance	No substrate exposure	500 g load; 500 double rubs with an abrasive eraser
Gasoline Resistance	No visible change	500 g load; 50 double rubs with a gasoline-saturated cotton pad

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.