WOF6014B-1 Water-Based Primer Varnish
Technical Data Sheet

1. Product Overview

WOF6014B-1 is a high-performance water-based base primer varnish developed by HCOLOR for gravure coater stations on metallized transfer paper and aluminum foil board. Applied prior to UV offset printing, it significantly enhances the surface tension and intermolecular adhesion of UV offset inks, preventing flaking and creasing failure.

2. Product Features

- **Superior Inter-Coat Adhesion:** Provides an active bonding layer for subsequent UV offset inks, eliminating ink lift.
- **Flawless Wetting & Laydown:** Smooth, pinhole-free film laydown on low-surface-energy metallized and filmic surfaces.
- **Fast Drying for High-Speed Lines:** High drying efficiency for gravure coating speeds of 80–250 m/min without blocking.
- **High Clarity & Gloss Preservation:** Fully transparent dried film maintains the brilliant metallic reflection of the substrate.
- **Low VOCs & Environmentally Friendly:** Complies with strict environmental, tobacco, and consumer safety regulations.

3. Suitable Substrates

Suitable for metallized transfer paper, holographic transfer paper, aluminum foil laminated board, PET film laminates, and coated paper.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Transparent to milky white viscous liquid	Visual inspection
Viscosity	s	17–19	Zahn #2 cup, 25°C
pH Value	-	8.0–9.0	Precision pH meter, 25°C
Solid Content	%	25±1	Oven method, 130°C × 2 h
Gloss (60°)	GU		

5. Application Guidelines

Ink Preparation	Stir thoroughly for 5–10 minutes; filtration through 200-mesh screen is recommended. 1-pack system.
Plate / Cylinder Specs	Gravure coater cylinder 150–250 LPI, moderate cell depth, uniform blade pressure.
Dilution Ratio	Dilute with ethanol:deionized water = 4:1 or pure water, addition ratio 5%–20%.
Press Viscosity	17–25 s (Zahn #2 cup, 25°C).
Press Speed	80–250 m/min (fine-tune based on machine drying capacity).
Drying Method	Hot air drying, air temperature 60–90°C; ensure primer film is dry before rewinding.
Equipment Cleaning	Flush coater cylinder and ink tray immediately with water after run.
Application Note	Perform cross-hatch adhesion tests on the primed metallic surface prior to commercial UV offset runs.

6. Regulatory & Safety

Regulatory Compliance	Complies with EU RoHS 2.0 (2011/65/EU) and REACH (EC 1907/2006) SVHC candidate list.
Food Contact Statement	
Usage Note	
Safety Data Sheet (SDS)	Comprehensive Safety Data Sheets (SDS) are available upon request from HCOLOR technical support.
User Responsibility	Users must independently confirm process compatibility and compliance under actual commercial conditions.

7. Packaging & Storage

Standard Packaging	Standard packaging: 20 kg plastic drum; custom volumes (1 kg, 5 kg, 200 kg) available upon request.
Storage Conditions	Store tightly sealed in original drums at 5–35°C in a dry, ventilated warehouse; protect from freezing.
Shelf Life	12 months from manufacturing date in unopened original containers.
Post-Opening Care	Reseal containers tightly immediately after use; consume within 6 months to prevent surface skinning.

8. Typical Product Grades

Product Code	Key Features	Suitable Substrates	Target Applications
WOF6014B-1	UV offset adhesion promoter / High clarity / High speed gravure laydown	Metallized transfer paper, aluminum foil paper, PET laminated paper	Base priming for UV offset printing on cigarette packs, liquor boxes, and luxury gift cartons

1. Baseline Platforms & Customization: The products listed above are core baseline platforms proven through extensive commercial mass production. To meet specific line speeds, substrate surface tension variations, or demanding inter-coat bond strength, HCOLOR provides tailored viscosity adjustments and custom functional performance development.

2. Specialty Process Integration: If integration with functional barrier coatings, high-gloss UV overprint varnishes, or heat-activated adhesives is required, please contact HCOLOR technical support for a comprehensive turnkey formulation solution.

9. Disclaimer

1. The data are typical values intended for product selection and technical reference only. Unless otherwise agreed in writing, they do not constitute guaranteed specifications.

2. The information contained herein is based on our current knowledge and experience and is provided in good faith for general application guidance only. It does not constitute a legal warranty, guarantee, or binding technical specification. Users are strictly responsible for evaluating and confirming product suitability, process compatibility, and commercial usability under their actual operating conditions and production equipment prior to commercial use.