WOF6000 Series Water-Based Base Primers
Technology Data Sheet

1. Product Overview

WOF6000 Series is a high-performance eco-friendly water-based base primer system engineered by HCOLOR for modern packaging embellishment. It integrates UV offset primer (WOF6014B-1), gravure ink primer (WOF6035-6A), and HP Indigo digital primer (WOF6235). Tailored for metallized transfer paper, aluminum foil paper, and PET laminates, it provides high-speed gravure and coater application, significantly enhancing surface wet-out and inter-coat adhesion with subsequent inks to eliminate flaking and crease cracking.

2. Product Features

- **Flawless Wet-Out & Leveling:** Smooth, uniform film transfer without pinholes or roller marks, delivering clean transparent laydown.
- **Tenacious Substrate Bonding:** Outstanding bond strength onto metallized transfer paper, aluminum foil paper, and PET film laminates.
- **Broad Overprint Compatibility:** Superior chemical bonding with UV offset inks, gravure inks, and digital liquid electroinks.
- **Fast Drying & Curing Speed:** Rapid surface drying with excellent anti-blocking properties, optimized for 80–250 m/min press lines.
- **High Clarity & Optical Fidelity:** Non-yellowing optical clarity preserves the substrate's metallic luster and graphic vibrancy.
- **Low-VOC Eco-Friendly Chemistry:** Water-based formulation with low odor and ultra-low VOCs, compliant with tobacco & green standards.

3. Suitable Substrates

Suitable for metallized transfer paper, holographic transfer paper, aluminum foil laminated paper, PET film laminates, vacuum metallized paper, coated art paper, matte paper, white cardboard (SBS/FBB), and label stocks.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Transparent to milky white viscous liquid	Visual inspection
Viscosity	s	17–25	Zahn #2 cup / Ford #4 cup, 25±0.5°C
pH Value	-	8.0–9.5	Precision pH meter, 25°C
Solid Content	%	25±2	Oven method, 120–130°C × 2h
Gloss (60°)	GU		

5. Application Guidelines

Ink Preparation	Stir thoroughly for 5–10 minutes until homogeneous; filtration through 200-mesh screen is recommended. 1-pack system.
Plate / Cylinder Specs	Gravure coater screen 150–250 LPI; for digital primer, anilox/roller coater unit with uniform blade pressure is recommended.
Dilution Ratio	Dilute with food-grade ethanol:deionized water = 4:1 or pure water, addition ratio 5%–20% (fine-tune according to line speed).
Press Viscosity	Recommended operating press coating viscosity: 17–25 s (Zahn #2 cup / Ford #4 cup, 25°C).
Press Speed	80–250 m/min (compatible with high-speed gravure coating and inline digital primer stations; adjust per drying capacity).
Drying Method	Hot air impingement drying, air temperature 60–90°C; ensure primer film is completely dry before rewinding or converting.
Equipment Cleaning	Wash gravure cylinders, coater rolls, and ink sumps immediately after printing with clean water to prevent dry-in.
Application Note	Prior to commercial production, conduct on-site adhesion tests on target substrates and verify inter-coat bond strength.

6. Regulatory & Safety

Regulatory Compliance	Complies with EU RoHS 2.0, REACH (SVHC) directives, and China Environmental Labelling certification.
Food Contact Statement	Formulated for external non-food-contact secondary packaging. Direct food-contact migration compliance requires project evaluation.
Usage Note	
Safety Data Sheet (SDS)	Full Safety Data Sheets (SDS) are available upon request from HCOLOR technical support.
User Responsibility	Users must independently confirm process compatibility and compliance with performance specifications prior to full adoption.

7. Packaging & Storage

Standard Packaging	Standard packaging: 20 kg plastic drum; custom volumes: 200 kg drum, 1,000 kg IBC tote, or custom sizes upon request.
Storage Conditions	Store tightly sealed in original containers. Keep in a dry, cool warehouse at 5–35°C, away from sunlight; protect from freezing.
Shelf Life	12 months from production date in unopened original containers.
Post-Opening Care	Reseal inner and outer lids immediately and tightly after dispensing; consume within 6 months to prevent surface skinning.

8. Typical Product Grades

Product Code	Key Features	Suitable Substrates	Target Applications
WOF6014B-1	UV offset base primer / High clarity / Exceptional inter-coat bonding	Metallized transfer paper, holographic paper, aluminum foil paper, PET laminates	Cigarette outer cartons, premium liquor packaging, luxury cosmetics, prestige gift boxes
WOF6035-6A	Gravure ink base primer / Smooth laydown / Robust chemical adhesion	Metallized transfer paper, holographic paper, aluminum foil paper, PET composites	Cigarette cartons, high-end liquor packaging, cosmetic boxes, food & pharmaceutical metal packaging
WOF6235	HP Indigo digital primer / Enhances electroink transfer & anchoring	Coated art paper, matte paper, white cardboard, kraft paper, label stock	Cigarette digital proofing & cartons, customized short-run luxury packaging, specialty adhesive labels

1. Baseline Platforms & Customization: The products listed above are core baseline platforms of the WOF6000 Series proven through extensive commercial mass production. To meet specific converting speeds, non-porous composite substrate variations, or demanding inter-coat bond requirements with subsequent specialty inks, HCOLOR provides tailored viscosity adjustments, additive customization, and bespoke formulation development.

2. Specialty Process Integration: If integration with specialty tactile finishes, reverse matte-gloss contrasting primers, or functional barrier coats is required, please contact HCOLOR technical support for a comprehensive turnkey application 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.