WLF90000 Series Water-Based Flexo PE-Coated Board Ink
Technical Data Sheet

1. Product Overview

WLF90000 Series is a high-performance water-based flexographic ink engineered for PE-extrusion coated paperboard. Widely applied in paper cartons, paper cups, aseptic beverage cartons (Tetra Pak style), and extrusion-laminated dairy packaging. It provides tenacious adhesion on corona-treated PE coatings, along with excellent resistance to deep-freeze condensation, heat-sealing temperatures, and boiling water.

2. Product Features

- **Exceptional Adhesion to PE:** Formulated with advanced adhesion promoters for corona-treated PE films.
- **Outstanding Thermal & Liquid Resistance:** Withstands hot heat-sealing, cold-fill moisture, and liquid immersion.
- **High Color Density:** Sharp, clean color rendition on white and brown board.
- **High-Speed Flexo Stability:** Smooth ink circulation and stable viscosity control up to 300 m/min.
- **Aqueous Environmental Profile:** Low odor, non-toxic, and compliant with consumer packaging standards.

3. Suitable Substrates

Suitable for PE-coated paper, PE-laminated paperboards, and related extrusion-coated barrier substrates.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Viscous liquid in various colors	Visual inspection
Viscosity	s	35–55	Zahn #2 cup, 25°C
pH Value	-	8.0–9.5	25°C
Solid Content	%	-	Oven drying, 120°C × 2 h
Gloss (60°)	GU	-	60° angle

5. Application Guidelines

Ink Preparation	Stir thoroughly for 5–10 minutes prior to use. Filtration through ≥200 mesh screen is recommended before loading onto press. 1-pack system; consume promptly after opening.
Plate / Cylinder Specs	Flexo: anilox roll screen 300–600 LPI, cell volume 6–12 BCM, moderate doctor blade pressure.
Dilution Ratio	Deionized water or dedicated aqueous diluent, dilution ratio 5%–10% (adjust based on press speed and target operating viscosity).
Press Viscosity	25–35 s (Zahn #2 cup, 25°C).
Press Speed	80–300 m/min (suitable for high-speed printing; optimize based on press model and drying capacity).
Drying Method	Hot air drying, air temperature 60–90°C; ensure complete drying before rewinding or die-cutting.
Equipment Cleaning	Clean printing plates and ink circulating systems promptly after printing with water or dedicated aqueous cleaning agents to prevent ink drying and clogging.
Application Note	Prior to initial commercial production, thorough trials must be conducted under actual operating conditions to verify ink adhesion, drying profile, and post-finishing compatibility on target substrates.

6. Regulatory & Safety

Regulatory Compliance	Complies with RoHS and REACH (SVHC) directives.
Food Contact Statement	Formulated for external non-food-contact secondary packaging. If specialized food contact compliance or low-migration performance is required, project-specific technical evaluation and formulation confirmation by HCOLOR are required.
Usage Note	VOC content does not meet domestic cigarette packaging standards. For domestic cigarette applications, please select dedicated compliant models.
Safety Data Sheet (SDS)	Safety Data Sheets (SDS) are available upon request.
User Responsibility	Users must independently verify product suitability, regulatory compliance, and processing performance under actual commercial production conditions prior to full-scale adoption.

7. Packaging & Storage

Standard Packaging	20 kg / 25 kg plastic pails; 1,000 kg IBC containers (custom packaging available upon request).
Storage Conditions	Store tightly sealed in original containers. Keep in a dry, cool, and well-ventilated warehouse at 5–35°C, away from direct sunlight and rain. Strictly protect from freezing; prevent winter frost damage or high-temperature degradation.
Shelf Life	12 months from production date in unopened original containers.
Post-Opening Care	Reseal immediately and tightly after dispensing; recommended to use within 6 months.

8. Typical Product Grades

Product Code	Key Features	Suitable Substrates	Target Applications
WLF90000	High color density / High-speed press stability	PE-coated paper and composite boards	Cartons / Paper cups / Aseptic cartons / Dairy packaging (extrusion coated)

1. Baseline Platforms & Customization: The products listed above are core baseline platforms proven through extensive commercial mass production. To meet specific press speeds (e.g., ultra-high-speed inline coating), substrate absorbency variations, or demanding rub/crease-crack resistance requirements, HCOLOR provides tailored viscosity adjustments, customized additive packages, and bespoke functional performance development.

2. Specialty Process Integration: If specialized finishes such as drip-off / drip-relief combination effects or tactile matte finishes are required, please contact HCOLOR technical support for a comprehensive turnkey printing formulation.

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.