WLG80000 Series Water-Based Gravure Aseptic Milk Packaging Ink Technology Data Sheet

1. Product Overview

WLG80000 Series is a specialized high-performance water-based rotogravure ink engineered for aseptic liquid dairy cartons and extrusion-laminated packaging. Tailored for paper cartons, paper cups, aseptic liquid bricks (Tetra Pak style), and milk gable-top cartons. It exhibits remarkable heat-seal resistance, interlayer bond strength under extrusion coating, and stability up to 300 m/min.

2. Product Features

- **High Color Density:** Rich, saturated colors providing excellent visual contrast.
- **Extrusion Lamination Compatibility:** High peel strength and zero delamination during PE extrusion coating.
- **High-Speed Runnability:** Superb cylinder release and low foam stability up to 300 m/min.
- **Thermal & Hydrothermal Resistance:** Resists boiling water, hot milk filling, and high-temperature heat-sealing.
- **Eco-Friendly & Non-Toxic:** Pure aqueous system meeting strict liquid food packaging safety requirements.

3. Suitable Substrates

Suitable for coated paperboard, white cardboard (SBS/FBB), kraft board, and extrusion-laminated barrier papers.

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	-	8.0–9.0	25°C
Solid Content	%	-	Oven drying, 130°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	Gravure / Surface: cylinder screen 150–250 LPI, moderate cell depth, moderate doctor blade pressure.
Dilution Ratio	Deionized water or dedicated aqueous diluent, dilution ratio 5%–20% (adjust based on press speed and target operating viscosity).
Press Viscosity	18–25 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 extrusion coating.
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 complies with China national standard GB 38507-2020.
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
WLG80000	High color density / Extrusion lamination compatibility / High-speed stability	Coated paper, white board, kraft paper	Paper 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.