# WFG-A40000 Series Water-Based Gravure Integrated Lamination Ink Technology Data Sheet

## 1. Product Overview

WFG-A40000 Series is a high-performance water-based gravure integrated lamination ink engineered for plastic films and hygiene materials. Specially formulated for food packaging film bags, pharmaceutical and food metal packaging, tissue paper packaging, plastic pouches, and assorted film packaging applications. It delivers exceptional printability and high-speed lamination performance on PET, BOPP, and PE films.

## 2. Product Features

- **High Color Density:** Delivers vivid, intense, and saturated color reproduction.
- **Superior Adhesion:** Exceptional bond strength on PET, BOPP, and PE films.
- **Integrated Lamination Performance:** Single-step printing and lamination with robust bond strength.
- **Fast Drying:** Rapid solvent release optimized for high-speed gravure converting.
- **Excellent Printability:** Crisp dot reproduction and minimal ink splatter.
- **Low-Odor & Eco-Friendly:** Water-based chemistry ensuring ultra-low VOC emissions and minimal residual odor.

## 3. Suitable Substrates

Suitable for plastic film substrates including PET, BOPP, CPP, PE, and related flexible packaging films.

## 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, 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 | Gravure cylinder screen 220–260 LPI, cell depth 32–40 µm, moderate doctor blade pressure. |
| Dilution Ratio | Standard diluent: Ethanol:Deionized Water = 9:1, dilution ratio 35%–60% (adjust based on press speed and target operating viscosity). |
| Press Viscosity | 17–25 s (Zahn #2 cup, 25°C). |
| Press Speed | 80–200 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. |
| 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 |
|---|---|---|---|
| **WFG-A40000 Series** | High color density / High-speed press stability | PET, BOPP, PE films | Food packaging film bags / Metal packaging / Tissue packaging / Plastic pouches |

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.