WOF2004 Water-Based Gravure Matte Varnish
Technical Data Sheet

1. Product Overview

WOF2004 is a specialized water-based rotogravure matte varnish engineered for high-end paper packaging. Extensively applied to cigarette inner frame liners, tipping paper, liquor cartons, and luxury cosmetic boxes. It creates a smooth, glare-free matte texture with high rub resistance and excellent printability.

2. Product Features

- **Smooth Matte Finish:** Delivers a uniform, refined matte appearance with low gloss (5–20 GU).
- **High Rub & Scratch Resistance:** Resists friction, marking, and edge scuffing.
- **Fast Drying:** Rapid through-cure under hot air drying, preventing cylinder buildup.
- **Superior Rheological Stability:** Homogeneous matting dispersion resisting phase separation.
- **Eco-Friendly Formulation:** Aqueous, low VOCs, and low residual odor.

3. Suitable Substrates

Suitable for woodfree paper, coated art paper, white cardboard (SBS/FBB), and related paperboards.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Translucent viscous liquid	Visual inspection
Viscosity	s	60±5	Zahn #2 cup, 25°C
pH Value	-	8.0–9.0	25°C
Solid Content	%	35±2	Oven drying, 105°C × 2 h
Gloss (60°)	GU	5–20	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	18–21 s (Zahn #2 cup, 25°C).
Press Speed	80–250 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 intercoat adhesion between base ink and varnish, as well as anti-blocking and drying performance.

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
WOF2004	Water-based gravure matte varnish / Low gloss & high scuff resistance	Woodfree paper, coated paper, white board	Cigarette inner frame liners / Tipping paper / Liquor packaging

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.