# WOF2151 Water-Based Gravure Matte Varnish
# Technical Data Sheet

## 1. Product Overview

WOF2151 is a premium water-based rotogravure matte overprint varnish specifically formulated for tobacco packaging. Widely applied to cigarette outer cartons, cigarette packets, inner frame liners, tipping paper, and transfer paperboards. It complies strictly with tobacco industry VOC limits and delivers an understated, velvety matte texture.

## 2. Product Features

- **Refined Matte Texture:** Uniform, tactile matte finish with subtle light diffusion (5–20 GU).
- **Strict Tobacco Industry VOC Compliance:** Fully meets domestic cigarette packaging regulatory standards.
- **Superior Anti-Marring Durability:** High resistance to friction, transit scuffing, and finger-marking.
- **High-Speed Runnability:** Fast moisture release enabling press speeds up to 250 m/min.
- **Clean Cylinder Release:** Low doctor blade streaking and minimal cylinder buildup.

## 3. Suitable Substrates

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

## 4. Technical Specifications

| Property | Unit | Typical Value | Test Method / Notes |
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| Appearance & Color | - | Translucent viscous liquid | Visual inspection |
| Viscosity | s | 60±5 | Zahn 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

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| 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

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| 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 domestic cigarette packaging regulations; suitable for domestic cigarette packaging printing. |
| 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

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| 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 |
|---|---|---|---|
| **WOF2151** | Matte finish / Wear resistance / High-speed stability | Woodfree paper, coated paper, white board, transfer paper | Cigarette outer packaging / Inner frame liners / Tipping paper |

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.