WOF22000 Series Water-Based Soft-Touch Coatings
Technology Data Sheet

1. Product Overview

WOF22000 Series is a luxury tactile surface embellishment water-based coating system engineered by HCOLOR, covering inline sheetfed offset coating (WOF22003), high-speed rotogravure coating (WOF22050A4), and high-definition screen printing (WOF22160). Formulated for premium cigarette outer cartons, inner frame liners, tipping paper, prestige spirits boxes, luxury cosmetics, and gift boxes, it imparts an opulent velvet-like, skin-soft tactile feel and sophisticated dead-matte visual finish, combined with excellent scratch resistance and anti-blocking performance.

2. Product Features

- **Opulent Velvet Tactile Feel:** Delivers a rich, silky skin-soft touch with a luxurious, non-reflective matte finish.
- **Superior Scratch & Scuff Resistance:** Resilient film withstands abrasion and stacking friction, preventing rub-off during die-cutting.
- **Versatile Converting Adaptability:** Optimized for high-speed gravure, inline sheetfed offset coater, and precision silkscreen.
- **Homogeneous Dead-Matte Finish:** Uniform low-sheen effect without haloing, cloudiness, or mottling for sharp aesthetic contrast.
- **Tenacious Substrate Bonding:** High bond strength onto white cardboard, art paper, woodfree paper, transfer paper, and synthetic stocks.
- **Eco-Friendly Ultra-Low VOC:** Aqueous low-VOC formulation, low odor, strictly compliant with rigorous cigarette packaging standards.

3. Suitable Substrates

Suitable for woodfree paper, white cardboard (SBS/FBB), coated art paper, matte paper, premium kraft paper, metallized transfer paper, holographic transfer paper, synthetic paper, specialty label stocks, and aluminum foil laminated paper.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Transparent to milky white viscous liquid	Visual inspection
Viscosity	s	30–65 (screen 110–160)	Zahn cup, 25±0.5°C
pH Value	-	8.0–9.5	Precision pH meter, 25°C
Solid Content	%	30±2	Oven method, 105–120°C × 2h
Gloss (60°)	GU		

5. Application Guidelines

Ink Preparation	Stir thoroughly for 10–15 minutes until matting particles are fully dispersed; filter through 150–200 mesh. 1-pack system.
Plate / Cylinder Specs	Gravure: 150–250 LPI; inline offset coater: 200–400 LPI anilox roll; screen: 100–300 mesh polyester screen, squeegee 65–75 Shore A.
Dilution Ratio	Direct press application is recommended; if reduction is required, add 1%–10% deionized water (adjust based on press speed).
Press Viscosity	Gravure press: 50–60 s (Zahn #2 cup); inline offset: 30–40 s (Zahn #3 cup); silkscreen: 110–160 s (Zahn #4 cup, 25°C).
Press Speed	Gravure: 80–200 m/min; inline offset: 6,000–10,000 sheets/hour; silkscreen: 1,500–3,500 sheets/hour.
Drying Method	Hot air impingement / IR drying, air temp 60–90°C (screen tunnel 60–80°C); ensure tactile film is fully cured before rewinding.
Equipment Cleaning	Flush anilox rolls, screen stencils, and doctor blade chambers immediately after shutdown with clean water to prevent dry-in.
Application Note	Prior to mass production, verify inter-coat adhesion over printed inks, anti-blocking under stacking pressure, and die-cutting resistance.

6. Regulatory & Safety

Regulatory Compliance	Complies with EU RoHS 2.0, REACH (SVHC) directives, and China Environmental Labelling certification.
Food Contact Statement	Formulated for secondary non-food-contact packaging. Direct food/pharmaceutical contact applications require dedicated evaluation.
Usage Note	
Safety Data Sheet (SDS)	Full Safety Data Sheets (SDS) are available upon request from HCOLOR technical support.
User Responsibility	Users must independently confirm suitability, regulatory compliance, and performance under specific conditions prior to adoption.

7. Packaging & Storage

Standard Packaging	Standard packaging: 20 kg plastic drum; custom volumes: 5 kg pail, 200 kg drum, or tailored packaging available upon request.
Storage Conditions	Store tightly sealed in original containers. Keep in a dry, cool warehouse at 5–35°C, away from sunlight; protect from freezing.
Shelf Life	12 months from production date in unopened original containers.
Post-Opening Care	Reseal inner and outer lids tightly after each dispense; consume within 6 months to prevent moisture loss and powder agglomeration.

8. Typical Product Grades

Product Code	Key Features	Suitable Substrates	Target Applications
WOF22003	Inline offset tactile coating / Silky velvet skin-feel / Superior anti-blocking	Coated art paper, woodfree paper, white cardboard, synthetic paper	Cigarette hard-pack cartons, premium wine & spirits boxes, luxury cosmetics, prestige toy packaging
WOF22050A4	High-speed gravure tactile coating / Rich full-bodied touch / Scratch-resistant	Woodfree paper, art paper, white cardboard (SBS/FBB), composite paper	Cigarette cartons, inner frame liners, luxury tipping paper, boutique paper canisters/food bags
WOF22160	Silkscreen specialty tactile coating / Heavy film build / Spot tactile contrast	Coated paper, gold/silver card, metallized transfer paper, label stock	Prestige boutique cigarette cartons, spot tactile gift boxes, luxury cosmetic boxes, specialty labels

1. Baseline Platforms & Customization: The products listed above are core baseline platforms of the WOF22000 Series proven through extensive commercial mass production. To accommodate diverse printing methods (gravure / offset / screen), substrate absorbency variations, or bespoke velvet pile thicknesses, HCOLOR provides tailored viscosity adjustments, tactile feel profiling, and specialty functional modifications.

2. Specialty Process Integration: If specialized finishes such as gloss-tactile contrast, drip-off effects, or other specialty surface embellishments 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.