UOP-1000 Series UV Offset Overprint Varnish
Technology Data Sheet

1. Product Overview

High-performance UV offset overprint varnish (OPV) specifically engineered for sheet-fed offset presses equipped with inline or offline coating units. Delivers rapid UV curing response, low residual odor, crystal-clear film clarity, and superior scuff and blocking resistance. Primarily designed for protective over-varnishing and luxury surface embellishment on premium cigarette packaging, liquor cartons, pharmaceutical boxes, and high-end gift packaging.

2. Product Features

- **High Gloss & Clarity:** Full film clarity and high specular gloss, delivering an ultra-smooth, premium aesthetic finish;
- **Superior Leveling & Low Mist:** Rapid ink transfer and leveling with low misting, eliminating orange peel and roller marks;
- **Eco-Friendly & Low Odor:** Very low residual VOCs and minimal odor after cure, conforming to green packaging standards;
- **Fast UV Curing Speed:** High photochemical reactivity, fully compatible with high-speed sheet-fed offset presses (7,000–12,000 sheets/hour);
- **Outstanding Slip & Scuff Resistance:** Balanced hardness and toughness, effectively preventing blocking and scratching during high-stack finishing;
- **Excellent Post-Press Adaptability:** Superior die-cutting and crease-crack resistance; excellent hot stamping compatibility.

3. Suitable Substrates

Applicable to various paper substrates including coated art paper, SBS ivory board, metallized transfer paper, and aluminum foil-laminated board.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Light yellow transparent liquid	Visual inspection
Viscosity	s	23–45	Coating Cup #4, 25±0.5°C
Solid Content	%	≥97	GB/T 33374-2016
Gloss (60°)	GU	80–90	60° angle, GB/T 13217.2-2024

5. Application Guidelines

Ink Preparation	Contains specialized leveling additives and micro-wax powders. Mild stratification may occur upon standing; stir thoroughly before use.
Plate / Cylinder Specs	80–120 lines/inch (LPI) anilox roller depending on target coating weight.
Dilution Ratio	Use dedicated UV thinner. Dilution ratio varies by product; please consult HCOLOR technical support.
Press Viscosity	Ready-to-use as supplied.
Press Speed	7,000–12,000 sheets/hour.
Drying Method	High-pressure mercury UV lamp system.
Equipment Cleaning	For short press halts, anhydrous ethanol or dedicated UV wash may be used.
Application Note	Prior to commercial production, conduct pilot tests under actual press conditions to verify interlayer adhesion and anti-blocking performance.

6. Regulatory & Safety

Regulatory Compliance	Complies with RoHS and REACH (SVHC) directives.
Food Contact Statement	Formulated for non-direct food contact outer packaging only. For specific food-contact migration compliance, please contact HCOLOR technical department for dedicated project evaluation.
Usage Note	
Safety Data Sheet (SDS)	Available upon customer request.
User Responsibility	Users must independently verify regulatory compliance, performance, and fitness for intended purpose under actual operational conditions.

7. Packaging & Storage

Standard Packaging	20 kg / 25 kg plastic pails; 1,000 kg IBC containers (custom packaging available upon request).
Storage Conditions	Store strictly protected from light in tightly sealed containers. Keep in a dry, cool, and well-ventilated warehouse at 5–25°C, away from fire, heat sources, and strong oxidizers. Strictly avoid direct exposure to sunlight and workshop fluorescent lighting to prevent dark polymerization.
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
UOP-1104B	High gloss, superior leveling, excellent scratch resistance	SBS board, transfer paper, foil board	Cigarette packaging, luxury liquor boxes, cosmetics
UOP-1145	Silky tactile touch, high scuff resistance, hot stampable	SBS board, metallized transfer paper	Cigarette packaging, luxury foil-stamped gift boxes

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.