UOP-2000 Series UV Gravure Snowflake Effect Ink
Technology Data Sheet

1. Product Overview

Decorative UV gravure effect ink formulated for paper and film substrates. Upon UV exposure, it crystallizes into elegant, ice-flower snowflake crystal patterns with strong three-dimensional optical relief, high scuff resistance, and robust adhesion. Widely utilized for creative surface embellishment on cigarette packaging, folding cartons, specialty films, and luxury gift boxes.

2. Product Features

- **Crystalline Snowflake Aesthetics:** Natural, intricate crystal grain structure with rich 3D light-and-shadow texture;
- **Robust Interlayer Adhesion:** Strong bond strength across gold/silver board, SBS ivory paper, BOPP, and PVC films;
- **Scratch & Abrasion Resistance:** High film surface hardness, preventing pattern abrasion during high-pile palletizing;
- **Outstanding Gravure Printability:** Smooth transfer on sheet-fed gravure (5,000–7,000 sheets/h) and inline gravure (100–150 m/min);
- **Eco-Friendly & Low Odor:** Rapid and thorough curing response with minimal residual odor.

3. Suitable Substrates

Applicable to gold/silver foil board, SBS ivory board, BOPP, and PVC substrates.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Light reddish liquid	Visual inspection
Viscosity	s	35–80	Zahn Cup #3, 25±0.5°C
Solid Content	%	≥97	GB/T 33374-2016
Gloss (60°)	GU	5–10	60° angle, GB/T 13217.2-2024

5. Application Guidelines

Ink Preparation	Stir thoroughly and gently prior to use; avoid high-shear agitation.
Plate / Cylinder Specs	35–60 μm cylinder cell depth.
Dilution Ratio	Use dedicated UV thinner; consult HCOLOR technical department for exact ratio.
Press Viscosity	Ready-to-use as supplied.
Press Speed	Sheet-fed gravure: 5,000–7,000 sheets/h; Web gravure: 100–150 m/min.
Drying Method	High-pressure mercury UV lamp system.
Equipment Cleaning	Clean with ethyl acetate or dedicated screen/cylinder wash.
Application Note	Ambient temperature and humidity influence crystal grain size; conduct press trials to calibrate pattern size before production.

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-2528D2	Fine delicate crystal pattern, excellent gravure printability	Paper substrates	Cigarette packaging, luxury cartons
UOP-2444	Delicate snowflake texture, stable runnability	Paper substrates	Cigarette packaging, luxury cartons
UOP-2548C1	Coarse crystalline pattern, strong adhesion, high wear resistance	Paper substrates	Cigarette packaging, decorative boxes
UOP-2238E	Pronounced coarse texture, strong tactile profile	Paper substrates	Cigarette packaging, specialty 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.