WPG-D20000 Series Water-Based Gravure PVC Film Surface Printing Ink Technical Data Sheet

1. Product Overview

WPG-D20000 Series PVC Film Surface Printing Ink is a high-performance water-based gravure ink developed for surface printing on soft calendered PVC films and flexible vinyl. It provides excellent surface adhesion, high tinting strength, superior scratch resistance, and long-term lightfastness on diverse consumer vinyl products.

2. Product Features

- **Tenacious Surface Adhesion:** Bonds firmly onto PVC film without blocking or flaking during folding and stretching.
- **Vibrant Tinting Strength:** High color payoff and sharp pattern definition for large-area decorative patterns.
- **Outstanding Scratch & Wear Durability:** Tough dried film resists everyday abrasion, scratching, and lightfast fading.
- **Clean High-Speed Printing:** Excellent doctor blade lubrication and cell release, running stably at 35–80 m/min.
- **Low Odor & Eco-Friendly:** Water-based chemistry compliant with consumer plastic product safety regulations.

3. Suitable Substrates

Suitable for flexible PVC calendered film, soft vinyl sheets, and plastic film substrates.

4. Technical Specifications

Property	Unit	Typical Value	Test Method / Notes
Appearance & Color	-	Viscous liquid in various colors	Visual inspection
Viscosity	s	35–55	Zahn #2 cup, 25°C
pH Value	-	8.0–9.0	Precision pH meter, 25°C
Solid Content	%		
Gloss (60°)	GU		

5. Application Guidelines

Ink Preparation	Stir thoroughly for 5–10 minutes; filter through 200-mesh screen before use. 1-pack system.
Plate / Cylinder Specs	Gravure cylinder 150–250 LPI, moderate cell depth, uniform blade pressure.
Dilution Ratio	Ethanol:deionized water = 9:1 or specialized reducer, addition ratio 5%–20%.
Press Viscosity	25–35 s (Zahn #2 cup, 25°C).
Press Speed	35–80 m/min (adjust per machine drying tunnel capacity).
Drying Method	Hot air drying, air temperature 40–55°C; ensure complete drying before rewinding.
Equipment Cleaning	Wash cylinder and ink fountains immediately with water or specialized cleaner.
Application Note	Confirm substrate plasticizer content and test adhesion before mass production.

6. Regulatory & Safety

Regulatory Compliance	Complies with EU RoHS 2.0 and REACH (SVHC) directives for environmental plastic compliance.
Food Contact Statement	
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 process compatibility and compliance under actual operating conditions.

7. Packaging & Storage

Standard Packaging	Standard packaging: 20 kg plastic drum; custom volumes (1 kg, 5 kg, 200 kg) available upon request.
Storage Conditions	Store tightly sealed in original drums at 5–35°C in a dry, ventilated warehouse; protect from freezing.
Shelf Life	12 months from manufacturing date in unopened original containers.
Post-Opening Care	Reseal containers tightly immediately after use; consume within 6 months to prevent surface skinning.

8. Typical Product Grades

Product Code	Key Features	Suitable Substrates	Target Applications
WPG-D20000-PVC Surface	Strong vinyl adhesion / High scratch resistance / Lightfast durability	PVC calendered film, flexible soft vinyl	PVC tablecloths, vinyl shower curtains, rainwear, inflatable toys, soft calendered PVC products

1. Baseline Platforms & Customization: The products listed above are core baseline platforms proven through extensive commercial mass production. To meet specific line speeds, substrate surface tension variations, or demanding rub resistance, HCOLOR provides tailored viscosity adjustments and custom PMS color matching.

2. Specialty Process Integration: If integration with functional tie-layer primers, specialty barrier coatings, or steam-resistant overprint varnishes is required, please contact HCOLOR technical support for a comprehensive turnkey formulation solution.

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.