Technical Data Sheet (TDS) for Water-based Plastic Ink

Introduction

Water-based plastic ink is a solvent-based ink that utilizes water as the primary solvent, specifically designed for printing on plastic substrates. It features low VOCs (Volatile Organic Compounds) emissions, offering significant advantages in terms of environmental protection and safety. This ink provides excellent print quality while minimizing environmental impact.

Key Features

1. **Environmental Friendliness**

- Low VOCs emissions, reducing environmental impact.
- Complies with international environmental standards such as EU REACH regulations.

2. **Safety**

- Non-toxic and harmless, suitable for food packaging applications.

- Meets food safety standards including U.S. FDA regulations and EU directives.

3. **Fast Drying**

- Rapid drying properties enhance production efficiency.
- Suitable for high-speed printing production lines.

4. **Excellent Adhesion**

- Provides strong adhesion on plastic materials, preventing peeling.
- Compatible with various plastic substrates such as PET, PVC, PP, and Non-woven Fabrics.

5. **Durability**

- Abrasion and scratch-resistant, ideal for long-term packaging use.
- Water-resistant, grease-resistant, and chemical-resistant.

6. **Color Stability**

- Delivers vibrant colors with long-term stability.

7. **Printability**

- Suitable for various printing methods including flexography, offset, and screen printing.

- Fast drying improves production efficiency.

Technical Parameters

1. **Solid Content**

- Refers to the proportion of non-volatile components in the ink, typically ranging from 30% to 40%.

2. **Viscosity**

- Viscosity affects print quality and speed, generally measured as 20-30 seconds at 25°C (DIN 4 cup method).

3. **pH Value**

- Indicates the acidity or alkalinity of the ink, typically within the range of 7.5-9.0.

4. **Drying Time**

- Drying time depends on printing conditions and substrate type, with full drying typically achieved within 24 hours.

5. **Gloss Level**

- Gloss after printing is a key quality indicator, usually measured at 40%-60% under a 60° angle.

6. **Printing Speed**

- Suitable for high-speed printing, typically up to 150-400 meters per minute.

Application Areas

1. **Food Packaging**

- Flexible packaging: e.g., candy wrappers, snack packaging.

- Composite films: multi-layer film composite packaging materials.

2. **Pharmaceutical Packaging**

- Medicine pouches: for small-scale pharmaceutical packaging.

- Aluminum foil composite films: for moisture and light protection in pharmaceutical packaging.

3. **Personal Care Product Packaging**

- Shampoo bottles: labels for shampoo and conditioner bottles.

- Body wash bottles: labels for body wash containers.

4. **Cosmetics Packaging**

- Cosmetic bottles: labels for cosmetic containers.

- Cosmetic boxes: printing on cosmetic packaging boxes.

5. **Industrial Packaging**

- Industrial product packaging: for packaging bags of industrial goods.

- Chemical product packaging: for packaging chemical products.

6. **Logistics Labels**

- Shipping labels: for cargo transportation.

- Anti-counterfeit labels: for security and authentication purposes.

Precautions

- Ensure plastic surfaces are clean before printing to achieve optimal results.

- Control workshop temperature and humidity during printing to maintain ink performance.

- Regularly inspect and maintain printing equipment to ensure smooth ink flow and print quality.

Standards & Certifications

- Production and use of water-based plastic ink must comply with relevant international and national standards, such as ISO 14001 Environmental Management Systems and ISO 9001 Quality Management Systems.

- For food-contact materials, compliance with food safety

regulations such as U.S. FDA standards and EU directives is required.

By using water-based plastic ink, eco-friendly, safe, and high-performance printing on plastic materials can be achieved, meeting the packaging and labeling needs of various industries.

Technical Parameters:

- Viscosity: 18"±8 (Rigosha 4# cap). Note: Determined based on ink concentration. Refer to the detailed report.
- pH Value: 7.5-9.0 (@25℃).
- Gloss: 40°-60° (black/white cardboard).

Dilution:

Add the same series of reducer or pH adjustment liquid as needed.

Cleaning:

Use high-strength cleaning agents for anilox rollers, printing

plates, and printing machines.

Storage:

Store in a cool, dry place at room temperature. Do not refrigerate. Keep sealed. Shelf life is one year from the date of production.

Usage Instructions:

Stir thoroughly before use.

Disclaimer

The data provided herein is for reference only. Users should conduct tests according to their own company's inspection and usage standards to determine suitability for specific applications. Due to the variability of individual usage conditions, we cannot guarantee performance under all circumstances.