NEXT-GENERATION PERMANENT
ELECTROSTATIC PROTECTION

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Technical Data Sheet

ProShield ESD 1PP1

For Polypropylene Copolymer Substrates

Powered by Novel Polymer Technology

ProShield ESD 1PP1 is a versatile paint designed specifically for polypropylene, copolymer substrates. It can be applied as a single-part paint for standard applications or as a two-part system when enhanced durability, chemical resistance, and abrasion resistance are required.

The paint's anti-static, homogeneous nature ensures consistent performance across the entire surface, without degradation over time. It retains the flexible properties of polypropylene by seamlessly adapting to the substrate's movements and expansions while maintaining its anti-static, ESD, or conductive properties.

What truly sets ProShield ESD 1PP1 apart is its permanent functionality. Once applied, the paint provides reliable static protection or conductivity for as long as it remains visible, regardless of environmental conditions. Additionally, the product is RoHS compliant, low VOC, and free from harmful solvents like toluene, xylene, and MEK, ensuring safety and sustainability.

When mixed with Hardener 1HD1, the paint achieves improved robustness, making it suitable for more demanding environments.

Specifications

Viscosity (ISO 2431:2015)	: 14 ± 2 (B4 Cup, sec), 34 ± 2 (Zahn2, sec)
Density (ISO 2811)	: 1.05 ± 0.04 g/cm³
Fineness of Grind (ISO 1524)	: 25 ± 5 microns
Adhesion (ASTM D3359)	: Passed
Surface Resistivity (ASTM D257)	: 10^4 to 10^9 ohm/sq (Depending on version)
Solid Contents	: 75 ± 1 %
Coverage	: Approx. 10-12 Sq. meters per Kg @ 50 µm
Color	: Green

Curing Time:

1 Part Application:

Tack-Free	: 45 minutes minimum
Dry time	: 4 Hours minimum
Full Cure	: 3 Days minimum

2 Part Application (with Hardener 1HD1):

Tack-Free	: 45 minutes minimum
Dry Time	: 4 Hours minimum
Full Cure	: 3 Days minimum
Pot Life	: Approx 45 mins after mixing

Application Instructions for ProShield ESD 1PP1 for Polypropylene Copolymer Substrates

Surface Preparation:

1. **Cleaning:** Ensure the polypropylene copolymer surface is thoroughly cleaned to remove mold release agents, dust, grease, and moisture using a suitable solvent-based cleaner.
2. **Drying:** The surface must be completely dry before applying the paint.
3. **Optional Sanding/Priming:** Lightly sand the surface for enhanced adhesion, if necessary, and clean off any sanding residue or use a Primer if compatibility is an issue.

Application Method for Single-Part:

1. **Stir Product:** Stir the paint well before use to ensure uniformity.
2. **Viscosity Adjustment:** If necessary, adjust the viscosity using **Thinner 1ET1** according to the product specifications.
3. **Application Techniques:** Apply using a brush, roller, dip, or spray method. Ensure even coverage across all areas.

Application Method for Two-Part (using Hardener 1HD1):

1. **Mixing:** Mix **100 parts of 1PP1 to 6 parts of 1HD1** by weight. Ensure accurate measurement to maintain consistency.
2. **Viscosity Adjustment:** Adjust viscosity with **Thinner 1ET1** as needed before application.
3. **Pot Life:** The mixed product should be used within 45 minutes to ensure best results. Monitor the mixture for changes in viscosity as it approaches the end of its pot life.
4. **Application:** Apply using brush, roller, dip, or spray methods similar to the single-part application. Ensure thorough mixing prior to application to achieve optimal results.

General Application Conditions:

- **Ambient Conditions:** Apply in well-ventilated areas, free from excessive moisture and within general solvent-based paint application conditions.
- **Equipment Cleanliness:** Ensure all equipment is clean and in good working condition to prevent clogging or poor application quality.

Drying and Curing Times:

- Tack-Free Time : 45 minutes minimum
- Dry Time : 6 hours minimum
- Full Cure : 4 days minimum

Additional Notes:

Pot Life: It is crucial to use the mixed product within 45 minutes when using the two-part method.
Thinner Use: Thinner 1ET1 can be used to adjust viscosity for both single and two-part applications, facilitating easier application and better finish quality.

Available Packing sizes:

Anti-Static (AS) : Resistivity 10^8 - 10^9 Ω/sq

Part Code	Net Weight
1PP1/AS/1	1 kg
1PP1/AS/5	5 kg
1PP1/AS/20	20 kg

ElectroStatic Discharge (ESD) : Resistivity 10^6 - 10^7 Ω/sq

Part Code	Net Weight
1PP1/ESD/1	1 kg
1PP1/ESD/5	5 kg
1PP1/ESD/20	20 kg

Conductive (CD): Resistivity 10^3 - 10^5 Ω/sq

Part Code	Net Weight
1PP1/CD/1	1 kg
1PP1/CD/5	5 kg
1PP1/CD/20	20 kg

Supporting Materials

Product	Part Code	Net Weight
Hardener	1HD1	1 kg
Thinner	1ET1/5	5 kg
Thinner	1ET1/20	20 kg

Storage:

Store **ProShield ESD 1PP1** in a cool, dry place, away from excessive heat and cold, in tightly closed containers. Ideal storage temperature is between **0°C and 45°C**.

Caution:

Apply **ProShield ESD 1PP1** following local health and safety regulations. Use **standard PPE** like gloves, eye protection, and respiratory masks. Ensure proper ventilation during application.

Consult the SDS prior to use.

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