



The French Steel Company
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3-Part Technical Specification for Fluorocarbon Paint on Steel Doors and Windows

Part 1 - General

1.1 Summary

- **Section Includes:** Surface preparation and application of fluorocarbon paint on steel doors and windows.

1.2 References

- **ASTM Standards:**
 - ASTM D3359: Standard Test Methods for Measuring Adhesion by Tape Test
 - ASTM D522: Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
 - ASTM D2794: Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
 - ASTM D3363: Standard Test Method for Film Hardness by Pencil Test
 - ASTM G154: Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
 - ASTM B117: Standard Practice for Operating Salt Spray (Fog) Apparatus

1.3 Submittals

- **Product Data:** Fluorocarbon resin is a high molecular polymer formed by the polymerization of fluoro olefin or the copolymerization of fluoro olefin and other monomers. It has outstanding weather resistance and is highly durable.
- **Samples:** Samples for color and gloss selection should be submitted for all projects.
- **Quality Assurance:** French Steel warranty assures certification that the products comply with specified requirements.
- **Test Reports:** Test reports available confirming compliance with performance requirements.

1.4 Quality Assurance

- **Manufacturer Qualifications:** 19 years of experience in producing fluorocarbon paint systems.
- **Applicator Qualifications:** Applicator with documented experience and qualifications in applying specified paint systems.

1.5 Delivery, Storage, and Handling

- **Delivery:** Deliver materials in manufacturer's original, unopened containers with labels intact.
- **Storage:** Store materials in a dry, well-ventilated area, at a temperature between 10°C (50°F) and 30°C (86°F).
- **Handling:** Handle materials to avoid damage.

1.6 Project Conditions

- **Environmental Conditions:** Apply paint in conditions where the temperature is between 10°C (50°F) and 35°C (95°F) and relative humidity is below 85%.
- **Protection:** Protect adjacent areas and surfaces from overspray or spillage.

Part 2 - Products

2.1 Manufacturer

- **Approved Manufacturer:** Jinhai Special Coatings & Decoration Co., Ltd.
- **Contact Information:** Thomas Scardino
 - Address: 1303 Logan Circle NW Atlanta GA 30318
 - Phone: 855-917-1833

- Email: info@frenchsteel.com
- Website: www.frenchsteel.com

2.2 Materials

- **Fluorocarbon Paint System:** Two-component system consisting of a base and hardener.
- **Base Component:** Fluoropolymer resin (PVDF), pigments, solvents, and additives.
- **Hardener Component:** Isocyanate hardener.

2.3 Performance Criteria

- **Adhesion:** Excellent, as per ASTM D3359.
- **Flexibility:** Passes 1/8 inch mandrel bend test (ASTM D522).
- **Impact Resistance:** Greater than 160 in-lbs (ASTM D2794).
- **Hardness:** 2H pencil hardness (ASTM D3363).
- **Weather Resistance:** Greater than 5000 hours in QUV (ASTM G154).
- **Salt Spray Resistance:** Greater than 2000 hours (ASTM B117).
- **Chemical Resistance:** Resistant to acids, alkalis, and solvents.

Part 3 - Execution

3.1 Examination

- **Surface Condition:** Verify that surfaces are clean, dry, and free from rust, mill scale, grease, and contaminants.
- **Preparation:** Ensure steel surfaces are prepared to SSPC-SP10 (near white blast cleaning).

3.2 Surface Preparation

- **Cleaning:** Remove all surface contaminants.
- **Abrasive Blasting:** Abrasive blast clean to achieve a near white metal finish.

3.3 Mixing

- **Mixing Ratio:** Mix base and hardener in a 4:1 volume ratio.
- **Induction Time:** Allow mixed product to stand for 10-15 minutes before application.

3.4 Application

- **Methods:** Apply by airless spray, conventional spray, or brush/roller.
- **Coating Thickness:** Apply with a wet film thickness of 4-6 mils (100-150 microns).
- **Drying Time:** Allow each coat to dry for 2-4 hours at 25°C (77°F) before recoating.

3.5 Curing

- **Full Cure:** Achieved in 7 days at 25°C (77°F).
- **Force Drying:** Can be accelerated with elevated temperatures.

3.6 Cleanup

- **Solvents:** Clean equipment immediately after use with xylene or acetone.

3.7 Protection and Cleaning

- **Protection:** Protect painted surfaces from damage until fully cured.
- **Final Cleaning:** Remove all protective coverings and clean adjacent surfaces.

Part 4 - Warranty

4.1 Warranty

- **Warranty Period:** 5 years, covering manufacturing defects and performance issues.
- **Conditions:** Warranty is subject to proper application and environmental conditions.