



Technical Data Sheet

The STEEL-IT® Polyurethane System

STEEL-IT® 2213 Epoxy Ester Precoat
 STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray

The STEEL-IT® Polyurethane System – Steel Gray consists of STEEL-IT® 2213 Epoxy Ester Precoat and STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray. STEEL-IT® 2213 is a 1K, low-VOC, fast drying precoat with outstanding resistance to corrosion and excellent adhesion. The Epoxy Ester Precoat and the Polyurethane Topcoat, when paired together in the STEEL-IT® Polyurethane System, offer long lasting resistance to corrosion, abrasion, UV-rays, moisture, salt-spray, and harsh chemicals. Utilizing customengineered 316L stainless steel leafing pigment, these single-component coatings create a hard, non-toxic, metallic finish. While the data presented in this Technical Data Sheet is specifically for STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray, the STEEL-IT® 2213 Epoxy Ester Precoat is compatible with all STEEL-IT® Polyurethane Topcoats. For information on other STEEL-IT® Polyurethane Topcoats, please refer to the appropriate Technical Data Sheet.

Applications	<ul style="list-style-type: none"> Machinery; industrial maintenance; architecture and construction; automotive; food processing and packaging; agriculture; aerospace; marine; other Interior and exterior applications: Provides UV/weathering-resistance
Surfaces	<ul style="list-style-type: none"> Steel, galvanized steel, aluminum, nickel-plated steel, copper, brass
System	<ul style="list-style-type: none"> STEEL-IT® 2213 Epoxy Ester Precoat: 1 coat 75 µm Dry Film Thickness (DFT) STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray: 1 coat 75 µm Dry Film Thickness (DFT) For particularly harsh conditions, a total dry film thickness of 225 µm is recommended: 1 coat of STEEL-IT® 2213 Epoxy Ester Precoat and 2 coats of STEEL-IT® 1002 Polyurethane Topcoat For touch-ups, apply STEEL-IT® 1002D Polyurethane Aerosol – Steel Gray For applications involving welding, the topcoat is applied directly to the metal surface. Please refer to the Technical Data Sheet and Application Instructions for STEEL-IT® 1002 and STEEL-IT® 1002D. STEEL-IT® 2213 Epoxy Ester Precoat is not weldable.

Technical Data

	STEEL-IT® 2213	STEEL-IT® 1002 Topcoat
Color (Closest Pantone)	7624 C	Cool Gray 9
Color (Closest RAL)	3009	7039
Solids by weight	56% ± 2%	46% ± 2%
Solids by volume	39% ± 2%	38% ± 2%
Density (calculated)	1,56 kg/L	1,11 kg/L
VOC (calculated)	49,7 g/L	460 g/L
Coverage* at 75 µm Dry Film Thickness (DFT)	4,13 m²/L	3,73 m²/L

*Values are considered "practical" coverage, calculated for smooth, non-porous surfaces and assume 20% loss due to overspray and waste



Accelerated Aging Tests[†]

Condensing Humidity	ASTM B117	Hours	ASTM D4585
STEEL-IT® 2213 Epoxy Ester Precoat (1 coat)		720	Pass
STEEL-IT® 2213 (1 coat) + STEEL-IT® 1002 (2 coats)		480	Pass

Salt Fog Test: ASTM B117	Hours	Rust at Scribe: ASTM D1654
STEEL-IT® 2213 Epoxy Ester Precoat (1 coat)	2064	9 = <0.5 mm creepage
STEEL-IT® 2213 (1 coat) + STEEL-IT® 1002 (1 coat)	2712	9 = <0.5 mm creepage
STEEL-IT® 2213 (1 coat) + STEEL-IT® 1002 (2 coats)	5880	7 = 1.0 – 2.0 mm creepage

[†]Coatings prepared on cold rolled steel or grit blasted steel and cured 14 days at room temperature



STEEL-IT® 2213 + STEEL-IT® 1002
Scraped panel, 2712 h

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STEEL-IT® Polyurethane System – Steel Gray

STEEL-IT® 2213 Epoxy Ester Precoat and STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray

Surface Preparation	<ul style="list-style-type: none"> Surfaces should be clean and free of all rust, paint, greases, waxes, salts, dirt, scale, etc For best results, grit-blast to SSPC SP-6 (Commercial Blast) Anchor pattern should be cut and angular at 38 50 µm deep Power-sanding with a dual-action sander or random orbital sander using #36 grit sandpaper will achieve similar results
Conditions	<ul style="list-style-type: none"> Apply only when ambient and substrate surface temperatures are 10-38 °C Relative humidity less than 85% Temperature of substrate surface and of coating at least 5 °F (2.75 °C) above the dew point
Application	<ul style="list-style-type: none"> Agitate for 5 min with a mechanical paint shaker or a mechanically driven paddle; hand agitation is not sufficient Preferred application method is using an Air, Airless, Air-Assisted Airless, or HVLP spray gun; brush and roller may also be used
Recommended Wet Film Build	<ul style="list-style-type: none"> To achieve 75 µm Dry Film Thickness (DFT), apply <ul style="list-style-type: none"> STEEL-IT® 2213 Epoxy Ester Precoat: 205 µm Wet Film Thickness (WFT) STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray: 255µm Wet Film Thickness (WFT)
Dry Time and Recoat Window	<ul style="list-style-type: none"> STEEL-IT® 2213 Epoxy Ester Precoat: <ul style="list-style-type: none"> Dry to touch: 1 hour Tack free to handle: 4 hours Dry to recoat window: 4-24 hours STEEL-IT® 1002 Polyurethane Topcoat – Steel Gray: <ul style="list-style-type: none"> Dry to touch: 2 hours Tack free to handle: 4 hours Dry to recoat window: 4-24 hours If product is not recoated within 24 hours, a light scuff-sanding using #400-600 grit paper is required before applying an additional coat
Curing	<ul style="list-style-type: none"> Cure at ambient temperatures of 10–49 °C Both temperature and climate conditions (e.g. high humidity or high aridity) will impact cure time Cure time required before part can be packaged or put into service depends on how the part will be used Full cure in 5-7 days after final coat. Corrosion resistance continues to improve with prolonged atmospheric aging over a 4-6 week period
Safety	<ul style="list-style-type: none"> Wear a NIOSH-approved respirator with an organic vapor cartridge Use nitrile gloves Apply STEEL-IT® in a well-ventilated area

For detailed information on surface preparation, application instructions, and recommended spray gun equipment settings please refer to the Application Instructions available online at STEEL-IT-EUROPE.com.

The latest versions of the Safety Data Sheets (SDS) are also online at STEEL-IT-EUROPE.com.

The information presented in this Technical Data Sheet is accurate at the date of publication, however the data may be revised as new results become available. The reported values fall within the normal range of measured product properties and should not be used to establish specification limits. All users are responsible for conducting testing to determine the suitability of STEEL-IT Brand Coatings for the specific requirements of their applications.

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