Protective & Marine Coatings

KROMIK® METAL PRIMER

E41N1 Red Oxide
E41A1 Gray

Revised: July 11, 2019

PRODUCT INFORMATION

2.13

PRODUCT DESCRIPTION

KROMIK METAL PRIMER is a long oil, high quality, rust inhibitive, brown, steel primer. For use in industrial environments to protect steel against atmospheric corrosion. Recommended for use where marginal surface preparation requires a penetrating type primer.

- Excellent corrosion resistance
- Long term flexibility
- Excellent adhesion to tightly adhering rust and mill scale
- Excellent wetting ability
- Low temperature application
- Excellent application characteristics

PRODUCT CHARACTERISTICS

Finish: Flat

Color: Red Oxide and Gray

Volume Solids: 57% ± 2%

Weight Solids: 75% ± 2%

VOC (EPA Method 24): Unreduced: <340 g/L; 2.80 lb/gal
Reduced 12%: <380 g/L; 3.25 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**5.0** (125)	**7.0** (175)
Dry mils (microns)	**3.0** (75)	**4.0** (100)
~Coverage sq ft/gal (m^2/L)	**225** (5.5)	**300** (7.4)
Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft	**912** (22.3)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 5.0 mils wet (125 microns):

	STANDARD: **@ 77°F/25°C** ***50% RH***	***REDUCED 10%:*** **@ 77°F/25°C** ***50% RH***
To touch:	2-4 hours	1-2 hours
Tack free:	4-6 hours	2 hours
To recoat, with alkyds:	24 hours	24 hours

Note: For maximum adhesion, acrylic topcoats require 48 - 72 hours drying of primer.

Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:	12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	100°F (38°C), PMCC
Reducer/Clean Up:	Mineral Spirits, R1K4

RECOMMENDED USES

For use over prepared metal substrates:

- Use as a field primer on structural steel and other large steel surfaces subject to flexing.

Examples:

- Towers
- Storage Tanks
- Cranes
- Structural Steel
- Bridges
- Piping
- Suitable for use in USDA inspected facilities

According to AISC, shop coat primers are intended for protection for only a short period of exposure in ordinary atmospheric conditions, and is considered a temporary and provisional coating.

Not recommended for immersion service or exposure to acids, alkalis, or strong solvents.

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP6/NACE 3
System Tested*:
1 ct. Kromik Metal Primer @ 3.0 mils (75 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	220 mg loss
Adhesion	ASTM D4541	260 psi
Direct Impact Resistance	ASTM G14	35 in. lbs.
Dry Heat Resistance	ASTM D2485	200°F (93°F)
Flexibility	ASTM D522, 180° bend, 1/2" mandrel	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 120 hours	Limited
Pencil Hardness	ASTM D3363	HB
Salt Fog Resistance	ASTM B117, 1000 hours	Moderate
Thermal Shock	ASTM D2246, 5 cycles	Excellent

Provides performance comparable to products formulated to federal specifications: SSPC-Paint #25

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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	(Microns)
Steel, high build alkyd topcoat:			
1 ct.	Kromik Metal Primer	3.0-4.0	(75-100)
2 cts.	Industrial Enamel HS	2.0-4.0	(50-100)
Steel, water based topcoat:			
1 ct.	Kromik Metal Primer	3.0-4.0	(75-100)
2 cts.	Pro Industrial DTM Acrylic Coating	2.5-4.0	(63-100)
Steel, aluminum topcoat under 200°F:			
1 ct.	Kromik Metal Primer	3.0-4.0	(75-100)
2 cts.	Silver-Brite Aluminum Paint	1.0-1.5	(25-40)

Other acceptable topcoats:
Pro Industrial Urethane Alkyd Enamel
Steel-Master 9500
Steel-Spec FD Alkyd
Sher-Cryl HPA

The systems listed above are representative of the product's use, other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
Iron & Steel: SSPC-SP2

Surface Preparation Standards

	Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal		Sa 3	Sa 3	SP 5	1
Near White Metal		Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast		Sa 2	Sa 2	SP 6	3
Brush-Off Blast		Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:	40°F (4.5°C) minimum, 120°F (49°C) maximum (air, surface, and material) At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	1 gallon (3.78L) and 5 gallon (18.9L) containers
Weight:	11.01 ± 0.2 lb/gl, 1.3 Kg/L

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DISCLAIMER

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APPLICATION BULLETIN

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SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel
Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Prime any bare steel within 8 hours or before flash rusting occurs.

Previously Painted Surfaces
If in sound condition, clean the surface of all foreign material. Smooth, hard, or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Surface Preparation Standards

	Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal		Sa 3	Sa 3	SP 5	1
Near White Metal		Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast		Sa 2	Sa 2	SP 6	3
Brush-Off Blast		Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	40°F (4.5°C) minimum, 120°F (49°C) maximum (air, surface, and material) At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean Up .....Mineral Spirits, R1K4

Airless Spray
Pressure.....2000 psi
Hose.....1/4" ID
Tip .....015"
Filter.....60 mesh
Reduction.....As needed up to 12% per gallon

Conventional Spray
Gun .....Binks 95
Fluid Nozzle 63C
Air Nozzle.....63PB
Atomization Pressure.....50 psi
Fluid Pressure.....15 - 20 psi
Reduction.....As needed up to 12% per gallon

Brush
Brush.....Natural Bristle
Reduction.....Not recommended

Roller
Cover .....3/8" woven solvent resistant core
Reduction.....Not recommended

If specific application equipment is not listed above, equivalent equipment may be substituted.

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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly to a uniform consistency with low speed power agitation prior to use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**5.0** (125)	**7.0** (175)
Dry mils (microns)	**3.0** (75)	**4.0** (100)
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NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 5.0 mils wet (125 microns):

	STANDARD: @ 77°F/25°C *50% RH*	*REDUCED 10%:* @ 77°F/25°C *50% RH*
To touch:	2-4 hours	1-2 hours
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To recoat, with alkyds:	24 hours	24 hours

Note: For maximum adhesion, acrylic topcoats require 48 - 72 hours drying of primer.

Drying time is temperature, humidity, and film thickness dependent.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Mineral Spirits, R1K4. Clean tools immediately after use with Mineral Spirits, R1K4. Follow manufacturer's safety recommendations when using any solvent.

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PERFORMANCE TIPS

Stripe coat all crevices, welds and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Mineral Spirits, R1K4.

Excessive reduction of material can affect film build, appearance, and adhesion.

Intimate contact of the steel surface and primer is necessary for adhesion and rust inhibition.

Refer to Product Information sheet for additional performance characteristics and properties.

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