



# Protective & Marine Coatings

# INDUSTRIAL ENAMEL

B54 SERIES

Revised May 20, 2014

## PRODUCT INFORMATION

2.15

### PRODUCT DESCRIPTION

**INDUSTRIAL ENAMEL** is a medium oil/alkyd all-purpose enamel. Designed for interior and exterior use.

- Dries fast and allows equipment to be placed back in service quickly
- Impact and abrasion resistant
- Chip and flake resistant
- High gloss makes it resistant to dirt
- Apply down to 40°F (4.5°C)
- Good exterior durability
- Excellent application properties

### PRODUCT CHARACTERISTICS

<b>Finish:</b>	Gloss
<b>Color:</b>	Wide range of colors available including safety colors
<b>Volume Solids:</b>	43% ± 2%, may vary by color
<b>Weight Solids:</b>	58% ± 2%, may vary by color
<b>VOC (calculated):</b>	<450 g/L; 3.75 lb/gal

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>4.5</b> (112)	<b>9.0</b> (225)
<b>Dry mils (microns)</b>	<b>2.0</b> (50)	<b>4.0</b> (100)
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>175</b> (4.3)	<b>350</b> (8.6)
<b>Theoretical coverage sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft</b>	<b>690</b> (16.9)	

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

#### Drying Schedule @ 4.6 mils wet (115 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 110°F/43°C
<b>To touch:</b>	3 hours	1-2 hours	30 minutes
<b>Tack free:</b>	8 hours	4-5 hours	4 hours
<b>To recoat:</b>	12 hours	8 hours	3 hours
<b>To cure:</b>	7 days	7 days	3 days

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

<b>Shelf Life:</b>	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
<b>Flash Point:</b>	101°F (38°C), PMCC
<b>Reducer:</b>	Not recommended
<b>Clean Up:</b>	Mineral Spirits, R1K4

### RECOMMENDED USES

For use over prepared substrates in industrial environments:

- Exterior/interior all-purpose maintenance enamel
- Safety and pipe marking enamel
- Economical machinery and equipment finish
- Interior wall and ceiling enamel
- Equipment
- Fire escapes
- Safety markings
- Steel supports
- Channels
- Conforms to AWWA D102, OCS #1
- Acceptable for use in high performance architectural applications.
- Suitable for use in USDA inspected facilities

### PERFORMANCE CHARACTERISTICS

**Substrate\*:** Steel

**Surface Preparation\*:** SSPC-SP6/NACE 3

**System Tested\*:**

1 ct. Kem Kromik Universal Metal Primer @ 3.0-4.0 mils (75-100 microns) dft

1 ct. Industrial Enamel @ 3.0 mils (75 microns) dft

\*unless otherwise noted below

Test Name	Test Method	Results
<b>Abrasion Resistance (topcoat only)</b>	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	180 mg loss
<b>Adhesion</b>	ASTM D4541	290 psi
<b>Corrosion Weathering</b>	ASTM D5894, 6 cycles, 2016 hours	Rating 10 per ASTM D610 for rusting ; Rating 10 per ASTM D714 for blistering
<b>Direct Impact Resistance</b>	ASTM D2794	68 in. lbs.
<b>Dry Heat Resistance</b>	ASTM D2485	200°F (93°C)
<b>Flexibility</b>	ASTM D522, 180° bend, 3/16" mandrel	Passes
<b>Pencil Hardness</b>	ASTM D3363	3B

Provides performance comparable to products formulated to federal specifications:

DOD-E-115C  
MIL-E-15090



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### RECOMMENDED SYSTEMS

		Dry Film Thickness / ct.	
		Mils	(Microns)
<b>Steel:</b>			
1 ct.	Kem Kromik Universal Metal Primer	3.0-4.0	(75-100)
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Aluminum:</b>			
1 ct.	DTM Wash Primer	0.7-1.3	(18-32)
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Concrete Block:</b>			
1 ct.	Heavy Duty Block Filler	10.0-18.0	(250-450)
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Concrete Floors:</b>			
1 ct.	Concrete and Terrazzo Sealer (reduced as needed)		
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Galvanized Metal:</b>			
1 ct.	Galvite HS	3.0-4.5	(75-112)
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Wood, including floors:</b>			
2 cts.	Industrial Enamel	2.0-4.0	(50-100)
<b>Interior Plaster and Poured Concrete Walls:</b>			
1ct.	PrepRite Masonry Primer	3.0	(75)
2 cts.	Industrial Enamel	2.0-4.0	(50-100)

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

### DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

### 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
- \* Aluminum: SSPC-SP1
- \* Galvanizing: SSPC-SP1
- \* Concrete & Masonry: SSPC-SP13/NACE 6 or ICRI No. 310.2R, CSP 1-3
- \* Wood, interior: Clean, smooth, dust free

\*Primer required

#### Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS709: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 Pitted & Rusted	C St 2 D St 2	SP 2	-
Power Tool Cleaning	Rusted Pitted & Rusted	C St 3 D St 3	SP 3	-

### TINTING

Tint with Blend-A-Color Toner or Maxitoner Colorant at 75% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

### 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:	8.82 ± 0.2 lb/gl, 1.06 Kg/L may vary with color

### 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.



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## APPLICATION BULLETIN

2.15

### 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. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel within 8 hours or before flash rusting occurs.

#### Aluminum

Remove all oil, grease, dirt, oxide, and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required.

#### Galvanized Steel

Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned. Primer required.

#### Masonry and Concrete

For surface preparation, refer to SSPC-SP13/NACE 6 or ICRI No. 310.2R, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F. Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with a cement patching compound. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Laitance must be removed. Primer required.

#### Wood

Surface must be clean, dry, and sound. Paint as soon as possible. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped, sanded and spot primed. All nail holes or small openings must be properly caulked. Sand to remove any loose or deteriorated surface wood and to obtain a proper surface profile. Self priming.

#### 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 .....Not recommended

Clean Up .....Mineral Spirits, R1K4

#### Airless Spray

Pressure.....2500 psi  
Hose.....1/4" ID  
Tip......015"  
Filter.....100 mesh

#### Conventional Spray

Gun .....Binks 95  
Fluid Nozzle .....66  
Air Nozzle.....63PB  
Atomization Pressure.....50 psi  
Fluid Pressure.....20-25 psi

#### Brush

Brush.....Natural Bristle

#### Roller

Cover .....3/8" woven solvent resistant core

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)	4.5 (112)	9.0 (225)
Dry mils (microns)	2.0 (50)	4.0 (100)
~Coverage sq ft/gal (m <sup>2</sup> /L)	175 (4.3)	350 (8.6)
Theoretical coverage sq ft/gal (m <sup>2</sup> /L) @ 1 mil / 25 microns dft	690 (16.9)	

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

#### Drying Schedule @ 4.6 mils wet (115 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 110°F/43°C
To touch:	3 hours	1-2 hours	30 minutes
Tack free:	8 hours	4-5 hours	4 hours
To recoat:	12 hours	8 hours	3 hours
To cure:	7 days	7 days	3 days

*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.

No reduction of material is recommended as it can affect film build, appearance, and adhesion.

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

Deep tinted colors may exhibit burnishing characteristics.

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

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