



# Protective & Marine Coatings

# WATERBASED INDUSTRIAL ENAMEL

B53-300 SERIES

Revised: February 9, 2018

## PRODUCT INFORMATION

2.35

### PRODUCT DESCRIPTION

**WATERBASED INDUSTRIAL ENAMEL** is a proprietary technology, one-component, acrylic-modified alkyd with outstanding exterior performance properties.

- Outstanding exterior durability
- Flash rust/early rust resistant
- Early moisture resistant
- Water clean up
- Excellent application properties
- High Gloss
- Fast dry
- Low odor
- Low VOC

### PRODUCT CHARACTERISTICS

<b>Finish:</b>	Gloss
<b>Color:</b>	Wide range of colors available
<b>Volume Solids:</b>	35% ± 2%, unreduced 32% ± 2%, reduced 10%
<b>Weight Solids:</b>	49.5% ± 2%, may vary by color
<b>VOC (EPA Method 24):</b>	<200 g/L; 1.67 lb/gal, Ultra White

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>4.5</b> 112	<b>8.5</b> 212
<b>Dry mils (microns)</b>	<b>1.5</b> 40	<b>3.0</b> 75
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>187</b> 4.6	<b>374</b> 9.2
<b>Theoretical coverage sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft</b>	<b>792</b> 19.4	

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

#### Drying Schedule @ 6.0 mils wet (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
<b>To touch:</b>	90 minutes	30 minutes	15 minutes
<b>To handle:</b>	6 hours	3 hours	1 hour
<b>To recoat:</b>	3 hours	2.5 hours	45 minutes
<b>To cure:</b>	14 days	7 days	4 days

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

<b>Shelf Life:</b>	36 months, unopened Store indoors at 50°F (10°C) to 100°F (38°C).
<b>Flash Point:</b>	212°F (100°C), Seta Flash
<b>Reducer/Clean Up:</b>	Water

### RECOMMENDED USES

- For use over prepared substrates in industrial environments:
- Steel
  - Concrete
  - All purpose maintenance enamel
  - Buildings
  - Water treatment plants
  - Equipment
  - Power plants
  - Structural steel
  - Rolling stock
  - Conforms to AWWA D102, OCS#1
  - Suitable for use in USDA inspected facilities
  - Acceptable for use in high performance architectural applications.
  - Galvanizing
  - Aluminum
  - Masonry
  - Storage Tanks
  - Machinery
  - New construction
  - Piping
  - Select marine structures

### PERFORMANCE CHARACTERISTICS

**Substrate\*:** Steel

**Surface Preparation\*:** SSPC-SP10/NACE 2

**System Tested\*:**

- Kem Kromik Universal Primer @ 3.0 mils (75 microns) dft
  - Waterbased Industrial Enamel @ 3.0 mils (75 microns) dft
- \*unless otherwise noted below

Test Name	Test Method	Results
<b>Abrasion Resistance (Finish only)</b>	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	183 mg loss
<b>Adhesion<sup>1</sup></b>	ASTM D4541	914 psi
<b>Corrosion Weathering</b>	ASTM D5984, 5 cycles, 1680 hours	Rating 10 per ASTM D610 for Rusting; Rating 8 per ASTM D714 for Blistering
<b>Direct Impact Resistance (Finish only)</b>	ASTM D2794	40 in. Lbs.
<b>Dry Heat Resistance (Finish only)</b>	ASTM D2485	200°F (100°C)
<b>Flexibility (Finish only)</b>	ASTM D522, 180° bend, 3/8" mandrel	Passes
<b>Moisture Condensation Resistance</b>	ASTM D4585, 100°F (38°C), 192 hours	Rating 10 per ASTM D610 for rusting; Rating 10 per ASTM D714 for blistering
<b>Pencil Hardness (Finish only)</b>	ASTM D3363	3B
<b>Salt Fog Resistance</b>	ASTM B117, 500 hours	Rating 10 per ASTM D610 for Rusting; Rating 8 per ASTM D714 for Blistering

**Footnotes:**

<sup>1</sup> Over Pro Industrial Pro-Cryl Universal Primer



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### RECOMMENDED SYSTEMS

Dry Film Thickness / ct.  
Mils      (Microns)

**Steel:**

1 ct. Acceptable primer (see below)

**Acceptable Primers:**

DTM Bonding Primer	(Prefinished Siding)
DTM Primer/Finish	(Steel, Galvanized)
DTM Wash Primer	(Aluminum)
Kem Kromik Universal Primer	(Steel)
Pro Industrial Pro-Cryl Universal Primer	(Steel, Galvanized)

2 cts. Waterbased Industrial Enamel      1.5-3.0      (40-75)

**Note:** Waterbased Industrial Enamel may be applied directly to steel; however, better performance will be obtained over a recommended primer.

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.

**Do not use hydrocarbon solvents for cleaning.**

Minimum recommended surface preparation:

* Iron & Steel:	SSPC-SP2
** Aluminum:	SSPC-SP1
** Galvanizing:	SSPC-SP1
** Prefinished Siding	SSPC-SP1

\* Primer recommended  
\*\* Requires primer

#### 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 7	3
Brush-Off Blast	Sa 1	Sa 1	SP 2	4
Hand Tool Cleaning	C St 2	C St 2	SP 2	-
Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	C St 3	C St 3	SP 3	-
Pitted & Rusted	D St 3	D St 3	SP 3	-

### TINTING

Tint with CCE at 100% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

### APPLICATION CONDITIONS

Temperature: 50°F (10°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: 10.47 ± 0.2 lb/gl, 1.26 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

2.35

### 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.

**Do not use hydrocarbon solvents for cleaning.**

#### 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. Primer recommended for best performance.

#### 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.

#### 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, or if this products attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

### APPLICATION CONDITIONS

Temperature: 50°F (10°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** .....Water

#### Airless Spray

Pressure.....2500 - 3000 psi  
Hose..... 1/4" ID  
Tip ..... .013" - .017"  
Filter ..... 60 mesh  
Reduction..... 10% by volume recommended

#### Conventional Spray

Gun ..... Binks 95  
Fluid Tip ..... 66  
Air Nozzle..... 63PB  
Atomization Pressure..... 50 psi  
Fluid Pressure..... 15-20 psi  
Reduction..... 10% by volume recommended

#### Brush

Brush..... Nylon/Polyester or Natural Bristle  
Reduction..... 10% by volume recommended

#### Roller

Cover ..... 3/8" woven with solvent resistant core  
Reduction..... 10% by volume recommended

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

#### 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
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Hand Tool Cleaning	C St 2	C St 2	SP 2	-
Pitted & Rusted	D St 2	D St 2	SP 2	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted D St 3	D St 3	SP 3	-



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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	8.5 212
Dry mils (microns)	1.5 40	3.0 75
~Coverage sq ft/gal (m <sup>2</sup> /L)	187 4.6	374 9.2
Theoretical coverage sq ft/gal (m <sup>2</sup> /L) @ 1 mil / 25 microns dft	792 19.4	

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

#### Drying Schedule @ 6.0 mils wet (150 microns):

	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	90 minutes	30 minutes	15 minutes
To handle:	6 hours	3 hours	1 hour
To recoat:	3 hours	2.5 hours	45 minutes
To cure:	14 days	7 days	4 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 soap and warm water. Clean hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with Mineral Spirits to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using Mineral Spirits.

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### PERFORMANCE TIPS

Stripe coat 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

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. Plan painting schedules to avoid these influences during the first 16-24 hours of curing.

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.

Excessive reduction of material 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 water.

**Do not use hydrocarbon solvents for cleaning.**

Reduction of 10% by volume with water is recommended for ease of application and improved final appearance.

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

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