Protective & Marine Coatings

WATERBASED TILE-CLAD®
EPOXY FINISH

PART A	B73-100	SERIES
PART B	B73V100	HARDENER

Revised 9/09

PRODUCT INFORMATION

4.19

PRODUCT DESCRIPTION

WATERBASED TILE-CLAD EPOXY FINISH is a two component, low VOC, high performance, water based, epoxy/cycloaliphatic amine finish coating. Developed for use in industrial environments. Waterbased Tile-Clad is a high gloss, abrasion resistant, low yellowing epoxy finish with excellent weathering properties.

- Early moisture resistance
- Chemical resistant
- Impact and abrasion resistant
- Low odor
- Outstanding application properties
- Resists yellowing
- Fast dry
- Nonflammable
- Low VOC

PRODUCT CHARACTERISTICS

Finish:	High Gloss
Color:	Wide range of colors available
Volume Solids:	44% ± 2%, mixed
Weight Solids:	54% ± 2%, mixed
VOC (EPA Method 24):	<200 g/L; 1.67 lb/gal, mixed
Mix Ratio:	4:1

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^2/L)	**176** 4.3	**352** 8.6
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**704** 17.2	

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):

	@ 50°F/10°C	@ 77°F/25°C *50% RH*	@ 100°F/38°C
To touch:	1.5 hours	45 minutes	25 minutes
To handle:	5.5 hours	4.5 hours	2 hours
To recoat:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To cure:	7 days	7 days	7 days
Pot Life:	4.5 hours	3.5 hours	1.5 hours
Sweat-in-time:	30 minutes	30 minutes	10 minutes

If maximum recoat time is exceeded, abrade surface before recoating.
Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	>200°F (93°C), SETA Flash, mixed
Reducer/Clean Up:	Water

RECOMMENDED USES

For use over prepared steel and concrete surfaces in industrial exposures such as:

- Marine applications
- Structural steel
- Storage tank exteriors
- Nuclear power facilities
- Food processing facilities
- Wastewater treatment facilities
- Manufacturing plants
- Pulp and paper mills
- Pharmaceutical facilities
- Clean rooms
- Bridges

- Suitable for use in USDA inspected facilities
- Conforms to AWWA D102-03 OCS #5
- Acceptable for general purpose use on floors.
- Acceptable for use in high performance architectural applications.

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP10 / NACE 2
System Tested*:
1 ct. Waterbased Tile-Clad Epoxy Primer @ 4.0 mils (100 microns) dft
1 ct. Waterbased Tile-Clad Epoxy @ 4.0 mils (100 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance (topcoat only)	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	120 mg loss
Adhesion	ASTM D4541	550 psi
Corrosion Weathering	ASTM D5894, 20 cycles, 6720 hours	Passes
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibility	ASTM D522, 180° bend, 1/4" mandrel	Passes
Impace Resistance, Direct (topcoat only)	ASTM D2794	160 in. lb.
Impact Resistance, Indirect (topcoat only)	ASTM D2794	100 in. lb.
Irradiation-Effects on Coatings used in Nuclear Power Plants	ANSI 5.12 / ASTM D4082-89	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 2000 hours	Passes
Pencil Hardness	ASTM D3363	HB
Salt Fog Resistance	ASTM B117, 2000 hours	Passes
Thermal Shock	ASTM D2246, 20 cycles	Passes

continued on back

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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	(Microns)
Steel:			
1 ct.	Waterbased Tile-Clad Epoxy Primer	2.0-4.0	(50-100)
1-2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Steel:			
1 ct.	ProCryl Universal WB Primer	3.0-4.0	(75-100)
1-2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Steel:			
1 ct.	Recoatable Epoxy Primer	4.0-6.0	(100-150)
1-2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Steel:			
1 ct.	Zinc-Clad VI	2.0-3.0	(50-75)
1 ct.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
1-2 cts.	Water Based Acrolon 100	2.0-4.0	(50-100)
Concrete/Masonry:			
1 ct.	Cement-Plex 875	13.0-25.0	(325-625)
(as required to fill voids and provide a continuous surface)			
Other acceptable surfacers are:			
	Heavy Duty Block Filler		
	Kem Cati-Coat HS Epoxy Filler/Sealer		
Topcoat			
1-2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Concrete, smooth:			
2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Galvanized Steel:			
1 ct.	Waterbased Tile-Clad Epoxy Primer	2.0-4.0	(50-100)
1-2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)
Drywall:			
1 ct.	ProMar 200 Interior Latex Primer	1.0-1.4	(25-35)
2 cts.	Waterbased Tile-Clad Epoxy Finish	2.0-4.0	(50-100)

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

DISCLAIMER

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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
	Galvanizing:	SSPC-SP1
	Concrete & Masonry:	SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3
	Wood, interior:	Clean, smooth, dust free

* Primer recommended

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

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

Do not use Blend-A-Color Toner.

APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 100°F (38°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:	5 gallons (18.9L) mixed
Part A:	4 gallons (15.1L) in a 5 gallon (18.9L) can and 1 gallon (3.78L)
Part B:	1 gallon (3.78L) and 1 quart (0.94L)
Weight per gallon:	10.5 ± 0.2 lb ; 1.26 Kg/L, mixed

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

4.19

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 (recommended preparation is Steam Cleaning). 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. Primer required.

Masonry and Block
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). 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 Cement-Plex 875. 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.

Galvanized Steel
Allow to weather a minimum of six months prior to coating. Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1 (recommended preparation is Steam Cleaning). When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 (recommended preparation is Steam Cleaning) 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.

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 product 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.

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:	50°F (10°C) minimum, 100°F (38°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.....2000 psi
Hose.....1/4" ID
Tip .....015" - .017"
Filter.....60 mesh
Reduction.....As needed up to 10% by volume

Conventional Spray
Gun .....DeVilbiss MBC-510
Fluid Tip .....E
Air Nozzle.....704
Atomization Pressure.....40-60 psi
Fluid Pressure.....10-20 psi
Reduction.....As needed up to 10% by volume

Brush
Brush.....Nylon/Polyester
Reduction.....Not recommended

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

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

continued on back

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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly using low speed power agitation. Make certain no pigment remains on the bottom of the can. Then combine four parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated prior to application. Re-stir before using.

If reducer is used, add only after both components have been thoroughly mixed, after sweat-in.

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^2/L)	**176** 4.3	**352** 8.6
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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):

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To touch:	1.5 hours	45 minutes	25 minutes
To handle:	5.5 hours	4.5 hours	2 hours
To recoat:			
minimum:	8 hours	6 hours	3 hours
maximum:	30 days	30 days	30 days
To cure:	7 days	7 days	7 days
If maximum recoat time is exceeded, abrade surface before recoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	4.5 hours	3.5 hours	1.5 hours
Sweat-in-time:	30 minutes	30 minutes	10 minutes

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, R1K4, to prevent rusting of the equipment. 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.

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

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

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.

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

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