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CIM IG-14
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Instruction Guide

APPLICATION OF CIM 2000 TO STEEL AND OTHER METALS

1.0 DESCRIPTION

This guide covers the installation of a CIM 2000 Coating System over a sound, properly prepared steel base. The system shall consist of a minimum of 60 wet mils (see product Coating Profile for appropriate coverage chart) applied by spray, squeegee, roller, or trowel. Actual coverage rates may differ from theoretical rates depending on surface profile and application method.

2.0 MATERIALS

2.1 CIM 2000 Premix & Activator

2.2 CIM Bonding Agent

2.3 Optional Materials

2.3a. CIM 61BG Epoxy Primer

2.3b. CIM Scrim

2.3c. Non-asphalt two-part polyurethane sealant

3.0 SAFE PRACTICES

Use equipment and procedures designed to minimize danger to personnel and materials. Special attention should be made to provide adequate ventilation and respirators for personnel applying CIM 2000 systems in confined spaces or operating spray equipment. See C.I.M. Industries' Instruction Guide, "Applying CIM Within Confined Spaces" (IG-9) for more detailed information.

4.0 SURFACE PREPARATION

All areas adjacent to those being coated with CIM 2000 which are not intended to be coated should be protected with suitable temporary splash covers such as polyethylene, carpenters paper, or masking tape. CIM 2000 shall be applied on a clean, dry, structurally sound base.¹

4.1 Steel

All carbon steel surfaces (including penetrations) shall be free of all dirt, oil, grease spots, and rust. CIM 2000 shall not be applied over steel that is blistered or flaking. For primed steel or steel with existing coatings, scarify the surface before coating and utilize a test patch of CIM 2000 to test for acceptable adhesion. Abrasive blasting is the preferred preparation method.

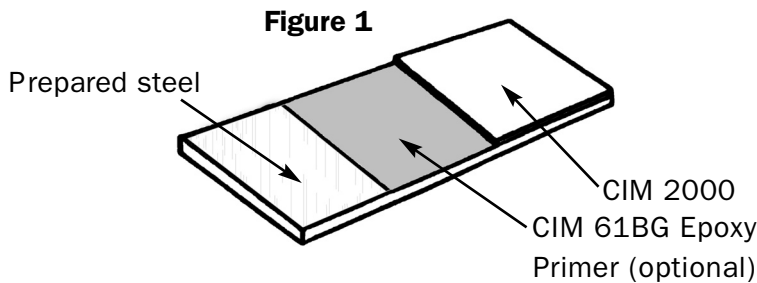
- Achieve minimum 3 mil surface profile.
- For immersion service: Near to White Metal Blast, SSPC-SP-10 or NACE No. 2 Blast.
- For non-immersion service: Commercial Blast, SSPC-SP-6 or NACE No. 3 Blast.

To prevent flash rust from occurring, CIM 61BG Epoxy Primer may be used on freshly blasted steel, prior to coating with CIM 2000 (see Figure 1). The recoat window for CIM 61BG Epoxy Primer shall

¹**Note:** If surfaces are not completely clean, CIM 2000 will achieve poor adhesion to the metal base and may experience blistering and possible failure.

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be no longer than 48 hours. See CIM 61BG Epoxy Primer Coating Profile for specific guidelines.



4.2 Other Metals

Stainless Steel shall receive a 4+ mil profile prior to coating with CIM 2000. Other metals (aluminum, copper, brass, zinc, etc.) shall be scarified by abrasive blasting or grinding. Smooth, glossy metal surfaces will not provide good adhesion. Solvent wipe MEK or Xylene on all metal surfaces to remove any dirt or oil residues. Abrasive blasting is the preferred preparation method for all types of metals.

5.0 APPLICATION

5.1 Metal Surfaces

CIM Bonding Agent shall be applied to all non-porous surfaces. **Apply a fine mist only!** Application is to be performed with a Hudson-type sprayer or equivalent at a rate of 600 sq. ft./gal., no more than one (1) hour prior to the application of CIM 2000. CIM Bonding Agent shall completely dry prior to the application of CIM 2000. If a properly mixed pail of CIM 2000 Premix and Activator is applied over CIM Bonding Agent which still appears wet, the result will be poor adhesion between the metal substrate and uncured CIM 2000.

5.2 Penetrations

Apply a cant bead of non-asphalt two-part polyurethane sealant at all horizontal to vertical transitions. Once the cant bead has become tack free (see manufacturer's instructions for specific tack free times), apply a detail coat of CIM 2000, 2" onto and 2" beyond the penetration. Penetration areas should not be allowed to cure more than 48 hours at 70°F before coating over with CIM 2000.

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CIM 2000 coatings will adhere to most clean construction materials. When coating substrates other than steel or other metals, please see the C.I.M. Industries' specific substrate Instruction Guide for detailed information of application procedures.

5.3 Sharp Edges

A non-asphalt two-part polyurethane sealant may be used on sharp edges to prevent thin spots from occurring. Once the sealant has become tack free (see manufacturer's instructions for specific tack free times), the entire area should be coated with the specified thickness of CIM 2000 coating. If work stoppage is unavoidable see sections 5.8 and 5.9.

5.4 Using CIM Scrim

CIM Scrim may also be used on sharp edges to prevent thin spots from occurring. After the substrate is properly prepared apply a thin tack coat, 10–20 mils, of CIM 2000 product. Push scrim evenly into tack coat and allow to cure for 2 hours. Apply 60 wet mils of self leveling CIM 2000 directly over scrim. CIM Scrim acts as a coverage gauge to insure thickness.

5.5 Cant Strips

Cant strips should be made with a non-asphalt two-part polyurethane sealant wherever horizontal surfaces meet vertical walls. This is crucial in applications such as tanks which experience wall movement when filled. Cant strips are generally 1/2" or more wide by 1/2" or more tall. Refer to the manufacturer's instructions for specific cure times.

5.6 Horizontal Surfaces

CIM 2000 coatings should be applied to steel at a film thickness of 60 or more wet mils, depending on application type. This can be achieved in a single coat on horizontal surfaces.

5.7 Vertical and Sloped Surfaces

CIM 2000 coatings can be applied to a vertical or sloped surface with a roller, brush or spray equipment. Small walls are often coated with rollers or brushes. Large walls may be sprayed using an air assisted airless spray system or plural component spray systems. See C.I.M. Industries' Instruction Guide, "Spray Application of CIM" (IG-12) or contact C.I.M. Industries for suggested equipment configuration.

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When working with CIM 2000 products, vertical or sloped surfaces require a minimum of three (3) applications of approximately 15-20 mils each to obtain the required thickness. If a coating thickness of more than approximately 55 mils is specified on a vertical or sloped surface, additional passes may be required to achieve desired thickness.

5.8 Multiple Coats

Second/multiple coats can be applied as soon as the previous coat can be touched lightly without coming off on your finger. For CIM 2000 products at 70°F, the tack free time is typically two (2) hour longer than forty-eight (48) hours after the previous coat has been applied. Higher temperatures speed up the curing time and tack free time, therefore significantly shortening the 2-48 hour recoat window. Colder temperatures have the opposite effect. As soon as the coatings becomes tack free, the second coat should be applied. For immersion or traffic service, apply all coats within the recoat window.

If it is necessary to walk on the first coat of CIM 2000 in order to apply multiple coats, such as when coating a parking or pedestrian deck, polyethylene boots may be worn to prevent sticking to the coating.

5.9 Recoating After the Recoat Window

If second/multiple coats cannot be applied within the recoat window (2-48) hours under standard conditions), the previous coat must be dulled. Acceptable results may be obtained by scrubbing with lacquer thinner. Better results will be obtained by abrading. Abrading shall be performed by surface grinder or other mechanical means. The CIM 2000 must be solvent wiped (lacquer thinner, MEK or xylene) to clean up any loose debris. After the solvent flashes off, apply a light mist of CIM Bonding Agent . Allow the Bonding Agent to flash off and recoat within one (1) hour. See CIM Bonding Agent Coating Profile for additional guidelines. For immersion or traffic service, minimize areas to be recoated outside the recoat window, severely abrade the areas to be recoated and test recoated areas for acceptable adhesion. Acceptable adhesion may only be achieved through aggressive abrading.

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5.10 Overlap at Joints

Should rain or other conditions require work stoppage, prepare for joint lines. Joint lines shall be clean and straight. The overlap shall be a minimum of 6" to insure an impervious joint. All areas to be coated where more than a forty-eight (48) hour cure has taken place shall be treated per section 5.9, Recoating After the Recoat Window.

6.0 TOPPINGS

The CIM 2000 system may include toppings of aggregate, decorative coatings, protective coatings, or combinations of the above. See C.I.M. Industries' Instruction Guide, "Topcoats" (IG-7) for more detailed information.

7.0 GENERAL LIMITATIONS

Applying CIM 2000 under any of the following conditions is likely to result in poor or unsatisfactory performance:

- Use of improper mixing equipment. See C.I.M. Industries' Instruction Guide "Mixing CIM Premix and Activator" (IG-8).
- Material temperature at the time of application is below 60°F.
- Use of standard application procedures when substrate temperature is below 50°F.
- Substrate moisture is present or rain is imminent.
- Substrate temperature is less than 5°F above the dew point.
- Substrate is in a temperature-rising mode.
- Other conditions which are obviously unsuitable.

