

Water-Based Epoxy Maintenance Coating

A two-component system for application over pre-painted and bare metal substrates



AkzoNobel
Tomorrow's Answers Today

Application guidelines for the Water-Based Epoxy Maintenance Coating, which is comprised of WA9C32800 and GW9C32796.

For professional use only.

The following guidelines are offered as a method to optimize the performance of the Water-Based Epoxy Maintenance Coating. This material may only be used as a primer, and is intended to be recoated with AkzoNobel TRINAR® ADS and CERAM-A-CRYL® II topcoats.

This system is designed for use as a primer over prepainted metal substrates and bare metal substrates. This product is not intended for use over non-metal substrates (e.g., wood, glass, and plastics).

Surface preparation for bare metal substrates

Bare iron and steel: Minimum surface preparation is Hand Tool Cleaning per SSPC-SP2¹. Remove all oils and grease from the surface by Solvent Cleaning per SSPC-SP1¹. Test for adequate adhesion per Appendix A.

Galvanized metal: Allow to weather a minimum of 6 months prior to coating. Solvent clean per SSPC-SP1¹. When weathering is not possible or the surface has been treated with chromates or silicates, first solvent clean and apply the coating to a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7¹ is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2¹. Test for adequate adhesion per Appendix A.

Aluminum: Because of the variety of aluminum compositions and treatments (e.g., alodine and anodizing) available, users must test for adhesion on their substrate before using. See Appendix A.

Non-metal Substrates: This Water-Based Epoxy Maintenance Coating is not recommended for application to masonry, PVC, fiberglass, concrete block, wood, and all other non-metallic substrates.

Surface preparation for prepainted metal substrates

Before priming your factory-finished building panels, great care must be taken to prepare the surface to be painted, and to carefully assess the adhesion of this AkzoNobel coating. The following four problem areas must be addressed before the repainting process can begin:

1.) Dirt and Mildew

Dirt, loose chalk and mildew must be removed before repainting can begin. Mild solutions of detergents or household ammonia will aid in the removal of most dirt, and the following are recommended levels:

- a.) One cup of Tide®, or other common household laundry detergents, which contain less than 0.5% phosphate, dissolved into five gallons of warm water. NOTE: The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning. Never blend cleansers or detergents with bleach.

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- b.) One cup of household ammonia dissolved into five gallons of water (room temperature).

Use a well-soaked cloth, sponge, or brush (with very soft bristles). A low-pressure spray washer may also be used. We do not recommend the use of scouring powders or industrial solvents since these agents may damage the film. Solvent-containing cleaners such as Fantastic®, however, are very effective and can be used without concern. If mildew or other fungal growth is a problem and cannot be removed as outlined above, household bleach-mixed at a concentration of one cup of bleach to five gallons of water, along with one cup of a mild soap (e.g., Ivory®) to aid wetting, is recommended.

Heavier dirt accumulations which must be addressed prior to repainting may necessitate the use of a dilute solution of Spic and Span® (1 cup into 5 gallons of warm water). NOTE: Detergent containing greater than 0.5% phosphate is recommended only as a preparation prior to repainting. Do not use such detergents for routine cleaning. Always rinse the surface thoroughly to remove any of the agents used in the cleaning procedure. Residual cleaners left on the surface will damage the adhesion of the newly applied paint system.

2.) Surface Imperfections

Minor scratches, which have not left the metal substrate exposed, can be lightly sanded or buffed to create a smoother surface. Care must be taken, however, not to expose the metal substrate. Once this exposed condition exists, the likelihood for rusting is greatly increased. Should the metal substrate be observed during this operation, see the following paragraph.

3.) Exposed Metal and Rust

Exposed metal must be treated to prevent rust from forming. To do so, sand the general area lightly and use the AkzoNobel Water-Based Maintenance Coating to protect any exposed substrate from corrosion. Before priming the entire building, however, test for adequate intercoat adhesion (see Appendix A). If either red or white rust is evident, scrape or brush away as much rust as possible and then sand lightly, removing ALL rust before priming. Care must be taken, however, not to remove the protective metallic layer.

4.) Additional Preparation Required for New Building Panels

There may still be a layer of factory-applied wax on the surface of the building panels if they have been installed within the last year. This material is used to protect the panels during fabrication and transit, and failure to remove this material will result in poor intercoat adhesion with resultant peeling or flaking of the new coating. To remove this wax, it will be necessary to lightly scuff the surface with a GRAY (not green) 3M Synthetic Steel Wool pad (equivalent to "000" steel wool) saturated with soapy water. A final wipe and rinse should be done with clean water only, to remove any loose dust or soap film.

Once this procedure is completed, perform the adhesion test in Appendix A to assure that acceptable adhesion is evident. If poor adhesion is still observed, repeat step #4.

It is imperative, of course, that the factory finish itself not be removed during this process. It is necessary to once again test the intercoat adhesion according to Appendix A. If the test results still indicate poor intercoat adhesion, do not proceed! Contact your builder immediately.

Maintenance Coating preparation

Mix components thoroughly before blending. Due to the high viscosity of both components, a mechanical mixer should be used. Improper mixing (such as hand mixing or stirring with a stick or spatula) may lead to improper cure.

The Water-Based Epoxy Maintenance Coating (WA9C32800 and GW9C32796) is a two-component system. To achieve the dry film properties of this system the WA9C32800 Epoxy Maintenance Coating must be mixed four-to-one by volume with the GW9C32796 Epoxy Catalyst. The two components must be thoroughly mixed to a uniform consistency. After mixing, the mixture may be used immediately. Material below 60 °F (16 °C) will require a one hour induction time.

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At the end of the appropriate induction time the material is ready to apply. The mixture may be applied by brush without further reduction. For spray application, a reduction of 12 parts of the Maintenance Coating mixture with one part water by volume has been found to give acceptable atomization with airless spray equipment. Excessive reduction of material can affect film build, appearance, and adhesion. As a starting point for airless spray application, a 0.015" tip and 1,500 p.s.i. has been found to give a uniform wet film.

Uniform dry films of 1.0 to 1.5 mils (wet films of 3.0 to 4.5 mils) give excellent coverage of smooth, bare metal substrates and prepainted metal substrates. Metal substrates that have been blast cleaned may require a heavier coating to cover the metal surface profile. For surfaces that have been blast cleaned, the maintenance coat must extend 1.0 mil above the metal profile. The application of heavy films must be controlled closely.

The orientation of the surface may require the use of two coats of the Maintenance Primer. A 24-hour drying period is recommended before application of a second coat. No painting should be done immediately after a rain or during foggy weather.

Potlife caution:

Discard the material six hours after the two components have been blended. Beyond six hours, film hardness will be adversely affected.

Application precautions:

Apply only when air, surface and product temperatures are above 50 °F (10 °C), and surface temperature is at least 5 °F (3 °C) above the dew point. Application temperatures below 50 °F may cause poor adhesion and lengthen the drying and curing time. Application temperature above 95 °F may cause dry spray, uneven sheen and poor adhesion. Relative Humidity in excess of 80% will lengthen the drying time.

Avoid exterior painting late in the day when dew or condensation is likely to form, or when rain is threatening. During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and condensation. If possible, plan painting schedules to avoid these influences during the first 16-24 hours of curing. Protect from freezing.

Recoat

Water-Based Epoxy Maintenance Coating (WA9C32800 and GW9C32796) is the approved coating for AkzoNobel's TRINAR® ADS and CERAM-A-CRYL® II repaint finish systems. A minimum four hours air dry time is required before the application of the TRINAR® ADS or CERAM-A-CRYL® II finishes. Cold temperatures, minimal air movement, and high humidity will extend the air dry time required prior to recoating.

The recoat time for Water-Based Epoxy Maintenance Coating is from one to seven days. After seven days, the Maintenance Coating will require cleaning and a second coat of Maintenance Coating before application of a finish coating.

Appendix A - evaluating intercoat adhesion

- 1.) After properly cleaning the surface to be repainted, paint a 4" x 4" area with the repaint material according to the manufacturer's instruction. Allow to dry completely before proceeding.
- 2.) Use a utility knife to cut a two inch "X" into the repaint coating.
- 3.) Place a three inch strip of Scotch® 610 tape over the "X" and rub 10 times with heavy pressure leaving a half inch of tape free for removal.
- 4.) Pull the tape back over itself at a 180° angle.
- 5.) Examine the tape and the building panel for any signs of paint removal.

If the tape removes more than 1/16" of the repaint material from the "x" cut, the intercoat adhesion is inadequate.

ⁱ SSPC-SP2 – Hand Tool Cleaning

Hand Tool Cleaning removes all loose mill scale, loose rust and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust and paint are considered adherent if they cannot be removed by lifting with a dull putty knife. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1ⁱⁱⁱ. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 2

ⁱⁱ SSPC-SP7 - Brush-Off Blast Cleaning

A Brush-Off Blast Cleaned surface when examined without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose paint. Tightly adherent mill scale, rust, and paint may remain on the surface. Mill scale, rust, and coating are considered adherent if they cannot be removed by lifting with a dull putty knife. Before blast cleaning, visible deposits of oil or grease shall be removed by any of

the methods specified in SSPC-SP1ⁱⁱⁱ or other agreed upon methods. For complete instructions, refer to Joint Surface Preparation Standard SSPC-SP7/NACE NO. 4.

ⁱⁱⁱ SSPC-SP1 – Solvent Cleaning

Solvent Cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 1.

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