

Gray Tiecoat

VA0C31630 and UC0C31631S - two component system for application over pre-painted and bare metal substrates



AkzoNobel

Tomorrow's Answers Today

Application guidelines for Gray Tiecoat VA0C31630 and its catalyst, UC0C31631, which are designed to provide optimal adhesion for TRINAR® ADS and CERAM-A-CRYL® II.

For professional use only.

These guidelines are offered as a method to optimize the performance of the Gray Tiecoat. VA0C31630 Gray Tiecoat and its catalyst, UC0C31631, are designed to provide optimum adhesion to newly erected metal building panels, and are intended to be topcoated with AkzoNobel's TRINAR® ADS or CERAM-A-CRYL® II topcoats.

Certain factory-applied fluorocarbon finishes, such as AkzoNobel's TRINAR® and silicone-polyester finishes, such as CERAM-A-STAR® 950 and 1050, are difficult to repaint successfully, especially when newly-erected. Should you feel the need to repaint your building panels, great care must be taken to prepare the factory-applied surface and to carefully assess the adhesion between this well-prepared surface and the repaint coating.

These products are not intended for use over non-metal substrates such as wood, glass, and plastics.

Surface preparation for pre-painted metal substrates

Before applying the Gray Tiecoat to 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 biodegradable cleaners or household ammonia will aid in the removal of most dirt, and the following are recommended levels:

- a.) One cup of Simple Green®, or other common non-toxic, biodegradable cleaners, which contain less than 0.5% phosphate, dissolved into two 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 cleaners or detergents with bleach.
- b.) One cup of household ammonia dissolved into five gallons of water (room temperature).

Use a well-soaked cloth, sponge, 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

Gray Tiecoat application guidelines

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 minimum surface preparation is Hand Tool Cleaning per SSPC-SP2ⁱ and use of a primer specifically designed to protect any exposed galvanized steel metal from corrosion.¹ Care must be taken, however, not to destroy the galvanized surface. Allow sufficient time for the primer to dry before applying the topcoat.

For severely rusted building panels the recommended preparation is SSPC-SP7ⁱⁱ – Brush-Off Blast Cleaning. AkzoNobel's Water-Based Epoxy Maintenance Coat, or a maintenance primer designed for use on hot-dipped galvanize steel, is recommended to protect the metal building panel from further rusting.

4.) Additional preparation required for new building panels

There may still be a layer of factory-applied wax on the surface of the factory-applied finish if it has been installed within the last two 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.

Gray Tiecoat VA0C31630 preparation

After the building has been properly prepared, it must be coated within 24 hours with AkzoNobel's VA0C31630 and UC0C31631 Gray Tiecoat. The paint must be thoroughly mixed before using. Mechanical mixing is recommended to assure that no settling remains on the bottom of the container. To reduce the material for application: add one part (by volume) UC0C31631 CATALYST to four parts (by volume) of VA0C31630 GRAY TIECOAT, and mix thoroughly. This blend should then be reduced to spray application with either EXP5050 Reducing Solvent² or Acetone.

EXP5050 Reducing Solvent must be added under agitation. Failure to do so will result in possible gellation of the paint.

Acetone is not recommended if the air temperature is higher than 70°F (21°C) or the metal surface temperature is greater than 80°F (27°C). The reduction is approximately two parts (by volume) Tiecoat mixture to one part (by volume) EXP5050 for spray application.

Tiecoat application

The surface must be completely dry prior to painting. Painting should not be done in the early morning when dew is present. Avoid painting at temperatures below 50°F (10°C). Apply a uniform coat of 0.25 mils dry film thickness. Note: Due to the very thin films required, under normal conditions the Tiecoat does not provide complete hiding of the surface. Excessive film thickness can result in runs and sags in the finish, and will affect the final appearance and adhesion. Allow a MINIMUM of two hours before painting over the Tiecoat.

Note: After the Gray Tiecoat and the Catalyst are mixed, the Tiecoat has a usable pot life of eight hours. After eight hours, the mixture is still a thin liquid, but the reactivity has diminished and will negatively affect adhesion. Do not use material more than eight hours old.

Application precautions

Application temperatures below 50°F (10°C) may cause poor adhesion and lengthen the drying and curing time. Application temperatures above 95°F (35°C) may cause dry spray, uneven appearance and poor adhesion. Avoid painting in direct sunlight on days when the air temperature exceeds 90°F (32°C). Do not apply to surfaces at temperatures of 120°F (71°C) or higher.

The Gray Tiecoat is recoatable after approximately 2 hours. Apply all coats within one week.

Coverage

Proper application of 0.25 mils dry film will result in approximately 650-700 square feet per gallon coverage, assuming no application loss. Coating loss up to 50% can result with some spray application equipment and methods, and must be taken into consideration when calculating the amount of Tiecoat needed for the job.

Clean-up

Use EXP5050 Reducing Solvent blended with acetone or other ketone solvents to clean all equipment. EXP5050 Reducing Solvent is not recommended as the sole cleaning solvent.

U.S. EPA regulations

VA0C31630 Gray Tiecoat and UC0C31631 Catalyst, when mixed per the label instructions and thinned to the manufacturer's maximum recommendation with nothing other than the recommended EXP5050 Reducing Solvent or Acetone, meets the Environmental Protection Agency established limits for volatile organic compounds in architectural coatings.

V.O.C. limit

450 grams per liter (3.8 pounds per gallon).

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.

¹ AkzoNobel's Water-Based Epoxy Maintenance Coat, WA9C32800 / GW9C32796 or equivalent primer designed for adhesion to galvanized steel.

² EXP5050 parachlorobenzotrifluoride.

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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