

Cleaning and Maintaining Your Aluminum Finish

High quality architectural painted and anodized finishes are extremely durable. But the best finishes still need a little TLC. Even with the most careful treatment of the windows, curtainwall or storefront during installation and in their daily use, occasional damage will occur.



This paper discusses the recommended care of painted and anodized finishes on architectural metal and examines three levels of concern: care and cleaning, minor repairs, and more complex refinishing.

THE CARE AND CLEANING OF PAINTED ALUMINUM: Today's factory-applied, heat-cured painted finishes are durable and very colorfast. The fluoropolymer resin-based products that meet the AAMA 2605 specification – with trade names such as Duranar® by PPG, Fluorpon® by Valspar, Trinar® by Akzo-Nobel or Sher-Nar® by Sherwin Williams – are warranted to retain their color and gloss levels for many years. However, to ensure that they retain their original beauty, even these highly durable finishes should be cleaned occasionally.

The simplest cleaning method is to flush the painted aluminum surface with water using moderate pressure to extricate dirt and construction soils. If soil is still adhering after drying the finished surface, a mild cleaning solution should be used.

When selecting a cleaning solution, use mild soap solutions that are safe for bare hands such as products to wash a car. Avoid the use of strong acid or alkali cleaners as they may damage the finish.

Solvents no stronger than mineral spirits or denatured alcohol may be used to remove grease, sealants or other materials. Never mix cleaners and solvents as the resultant mixture can cause harmful, or even dangerous, results. Do not use abrasive cleaners or materials such as steel wool or abrasive brushes, which also can harm the surface.

After the heavy soil, grease or sealant is removed, a mild soap solution should be applied with a soft cloth, sponge or soft brush. Rinse the surface thoroughly with clean water and dry with a soft cloth.

The cleaning solution should only be applied to the direct area that is being cleaned. Run-down of cleaner should be minimized and rinsed quickly and as long as necessary to remove streaking. Do not allow cleaning chemicals to “puddle” on horizontal surfaces such as windowsills. Always clean aluminum surfaces from the top elevation to bottom and follow with a thorough rinsing of water. AAMA recommends that for single-story buildings, cleaning is performed from the bottom up and then rinsed from the top down.

In coastal areas where the finish is exposed to salt spray or in areas containing heavy industrial pollutants, the cleaning should take place on a regular basis. Give added attention to recessed and sheltered areas that usually become more heavily soiled because of lack of rain washing.

The aluminum cleaning program should be integrated as a part of the regularly scheduled building cleaning and maintenance program. As an example, both the glass cleaning and aluminum curtainwall can be cleaned at the same time.



RECOMMENDATIONS FROM THE PAINT MANUFACTURERS

PPG and Valspar – offers two main precautions: (1) do not use wire brushes, abrasives or similar cleaning tools which will mechanically abrade the coatings surface, and (2) certain cleaning agents listed below should be tested in an inconspicuous area before use on a large scale.

Hot or Cold Detergent Solutions

A 5% solution in water of commonly used commercial (non-industrial detergents) will not have any destructive effect on a fluoropolymer surface. These solutions should be followed by an adequate rinse of water. Use a cloth or sponge for application.

Mildew

In areas subjected to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary:

- 1/3 cup dry powdered laundry detergent (such as Tide®)
- 1 quart sodium hypochlorite 5% solution (such as Clorox®)
- 3 quarts water

Ketones, Lacquer Thinner and Paint Remover

Great caution should be taken when any of these are used on a fluoropolymer surface. Metal suppliers and coating manufacturers are not responsible for damage from unrestricted use. Limit any contact to one minute on the surface and test before using.

- Methyl ethyl ketone (MEK)
- Methyl isobutyl ketone (MIBK)
- Ethyl acetate (nail polish remover)
- Lacquer thinner

It is not recommended that any paint remover or acetone be used on a fluoropolymer surface.

Solvents

Solvents that may be used to remove non-water soluble deposits such as tar, grease, oil, paint and graffiti from fluoropolymer surfaces include:

- Isopropyl (rubbing alcohol)
- Denatured alcohol (ethanol)

Typically, these alcohols have no permanent effect on fluoropolymer surfaces.

Characteristically, these petroleum solvents have no permanent effect on fluoropolymer surfaces:

- VM&P naphtha
- Mineral spirits
- Kerosene
- Turpentine (wood or gum spirits)

The following aromatic and chlorinated solvents should be used with caution on a fluoropolymer surface. Limit contact with solvent to five minutes maximum and test before using.

- Xylol (Xylene)
- Toluol (Toluene)
- Perchlorethylene (Perclene)
- Trichlorethylene (Triclene)

Warranty

Misuse or abuse of any of the cleaning agents listed in this bulletin could result in a voiding of warranty.



PPG's full cleaning and maintenance guide can be found [here](#).



Valspar's full cleaning and maintenance guide can be found [here](#).



AAMA, the source for performance standards, products certification and educational programs for the fenestration industry offers related documents that can be ordered at its website in [the publication store](#). "AAMA 609 & 610-09 Cleaning and Maintenance Guide for Architecturally Finished Aluminum" and "AAMA AFPA-1-15 Anodic Finishes / Painted Finishes" are two key documents to the protection of finished aluminum.



THE CARE AND CLEANING OF ANODIZED ALUMINUM: Anodized material has an extremely hard surface that is very colorfast and mar resistant. A Class I clear or color anodized finish applied by a high-quality anodizer specializing in architectural finishing will provide consistent color and long product life in a variety of applications.

Much like painted surfaces, an anodized finish should be cleaned using mild soap solutions to retain its original beauty. Products that are safe for use with bare hands, including most commercial cleaning products, can be safely used. The cleaning solution should be applied with a soft cloth, sponge or brush. Avoid the use of strong acid or alkali cleaners.

Severely soiled anodized surfaces can be cleaned a little more aggressively than painted surfaces. For example, slight scuff marks and rub marks on an anodized surface can be removed with a mild abrasive pad such as the 3M Scotch-Brite™ pad. Use the pad to remove the mark, and then clean the surface using the mild soap solution. Rinse the surface thoroughly with clean water and dry with a soft cloth.

As with painted surfaces, in coastal areas where the finish is exposed to salt spray or in areas containing heavy industrial pollutants, the cleaning should take place on a regular maintenance program.

FIELD TOUCH UP: It is almost certain that some damage will occur and touch-up work will be required during or after installation. The good news is that both painted and anodized surface damage can be repaired easily if the damage is slight such as a scratch or rub mark. Minor painted surface damage can be sanded prior to touch-up painting with excellent results. For scratches or gouges, use a relatively coarse grit paper to remove the damage, then use progressively finer paper to remove the sanding marks, finishing with a 180- to 220-grit paper.

Sanding of anodized material that is going to be touched-up is not recommended. The anodized surface is aluminum oxide, which is generally harder than the sandpaper. Some rub marks on an anodized surface can be removed with a mild abrasive pad such as the Scotch-Brite pad prior to touch up painting.



Custom finishers usually supply a limited amount of touch-up paint with the project material. Touch-up paint is supplied in small aerosols or bottles with a built in brush for easy application and is to be applied very sparingly. It is intended to cover small blemishes or to touch-up exposed cut ends on fabricated parts. It is not intended for use on large areas of more than a few square inches. The color will closely match the factory-applied painted or anodized finish. Remember, the finish is not as hard nor is performance the same as the baked-on finishes. After cleaning the area to be touched up, wipe the area with denatured alcohol to remove any moisture or cleaning residue and apply the touch-up per the finisher's instructions. Use caution as excessive use of touch-up paint may void the original finisher's warranty.

CORRECTING MORE SEVERE DAMAGE: (Calling in the Pros) At times a window, curtainwall or storefront frame will become damaged or discolored beyond the point where simple field touch-up will correct the problem. Damage can result from a variety of sources including:

- final cleaning of the building façade without proper protection of the aluminum surfaces,
- environmental impact from sea-coast or corrosive atmosphere exposure,
- long term neglect,
- or selection of the wrong finish at the time the material was finished and fabricated. (For example, specifying dark bronze or bright blue or red baked enamel on the framing materials or panels that are exposed to the exterior elements.)



As the country's leading and largest factory applicator of architectural spray finishes, Linetec is unique in its ability to offer on-site repair and restoration services of unparalleled quality. Our professionals possess the knowledge and skill to

confidently guarantee the projects compliance to the AAMA High Performance Organic Coatings Specification. The highly specialized coatings available to licensed professionals are known as Air-Dry Systems (ADS). They can be tinted to match nearly any existing or desired painted or anodized finish color.

For more than 40 years, fluoropolymer resin-based finishes have held the position as the world's premiere exterior metal finish. ADS paints with fluoropolymer resin-based offer the same superior weathering properties as PVDF coatings, applied in-house by an approved applicator, and can be field applied on almost any building material, restoring surfaces to last and look like new.

The tough properties of fluoropolymer resin-based ADS resist marring and abrasion, withstand airborne pollution without staining or discoloring, and retain their excellent appearance over time. The coatings require little maintenance and can be easily cleaned with mild detergents.

Surface preparation, application and finish should all be executed properly for a long lasting finish. A minor mistake in any segment of repair will cause major problems over time. For any repair other than a small scratch or blemish, [Linetec](#) strongly suggests that a professional is called upon to inspect the situation and determine the best suitable paint or repair procedure.



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