

Product Cleaning, Maintenance, and Storage

Manufacturer

Pure + FreeForm

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To properly clean, maintain, and store Pure + FreeForm metal panels and flat sheets, the following guidelines should be read, understood, and followed. This list does not include all the procedures and recommendations, only a representative set of major points of instruction. We recommend spot testing an area of the panel with your cleaning solution prior to cleaning the whole panel. If you require a piece to test clean, please contact us directly to have a sample shipped to you. Please note we may not be able to provide the exact finish due to the custom nature of the finishes we design, but we can provide a finish in a similar topcoat to test.

Safety

We suggest you wear safety glasses, long sleeves, and rubber gloves when handling panels or flat sheets. Please follow the cleaner manufacturer's recommendations for safe handling of cleaning products.

Panel Review

We recommend reviewing all flat sheets prior to storage, fabrication, or installation. Shipping damage must be noted and reported to Pure + FreeForm within 48-hours.

Storage

It is critical to successful application and the project lifecycle to store materials properly prior to fabrication and installation. Flat sheets should be stored laid down flat in an indoor, environmentally controlled space, approximately 73°F/23°C. We recommend areas that are dry and well ventilated. All finishes will have a protective film on them, which should only be removed after installation.

Maintenance

Pure + FreeForm finishes require little to no maintenance. Surface residue may be removed by following the cleaning instructions provided below. Minor scratches may be touched up on-site by matching paint from the manufacturer, when available. Matching paint is not available for all finishes.

Cleaning Instructions

Painted aluminum flat sheets can be cleaned with non-solvent based, non-abrasive commercial neutral detergent and clean water. In some cases, plain water may be adequate. The cleaning instructions in sections 1.0 – 5.0 below are tested and developed by the AAMA/FGIA, as documented in AAMA 609 & 610-15. They have been verified for use with Pure + FreeForm products.

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1.0 Scope

1.1 This guide outlines methods, equipment, and materials applicable for cleaning Pure + FreeForm architecturally finished aluminum after construction and for subsequent periodic maintenance.

1.2 The methods outlined herein are intended for use on Pure + FreeForm panels and flat sheets, whether rolled or extruded shapes, including facades, interior walls, soffits, ceilings, canopies, millwork, column covers, doors, signage, and specialty roofs.

1.3 Types of architectural finishes are thermosetting organic coatings.

2.0 Purpose

This information is intended as a guide for architects, owners, building managers, contractors and others who are interested in the proper care and maintenance of Pure + FreeForm finished architectural aluminum. Herein are described safe, practical methods for cleaning, maintenance, and protection of finished architectural aluminum.

3.0 General Information on Cleaning Organic Coatings

3.1 Organic coatings on aluminum do not normally show an appreciable amount of dirt collection. In many atmospheres, dirt or soil would not indicate a detrimental risk to the coating, but cleaning and surface care may be desirable for the sake of appearance. Cleaning may become desirable in areas where heavy industrial deposits have dulled the surface, where materials from construction processes have soiled the surface or where cleaner run-down from other surfaces should be removed.

3.2 Painted surfaces, when exposed to the atmosphere, collect soil and dirt, the amount of which may vary depending on geographic area, environmental conditions, finish, and location on the building. Local atmospheric conditions as well as the building location within a geographical area, quite naturally have an effect on cleanliness.

More frequent cleaning will be required in heavy industrialized areas compared to rural areas. Seasonal rainfall can affect washing frequency by removing water soluble deposits and less adherent soil. In foggy coastal regions, frequent cycles of condensation and drying can create a heavy build-up of atmospheric salts and dirt which may adhere tenaciously. In climates where rainfall is low, the opportunity for atmospheric washing of the surface is minimal. Los Angeles, for example, has a unique combination of limited rainfall, temperature fluctuation, smog, and condensation. This situation requires that cleaning be done more frequently than in other metropolitan areas where rainfall is more frequent.

Improper packaging, handling, storage, shipping, processing and/or installation that would be detrimental to the coating should be avoided. Examples include scratches, abrasions, impacts, abrasive cleaners, moisture, standing water or other contamination, deficiency in cleaning, contact with incompatible materials and galvanic reaction due to dissimilar metal contact.

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It is important to note that if the paint is damaged in any way, the potential for corrosion will greatly increase. Any such defects shall be addressed in accordance with Pure + FreeForm's recommendation as soon as possible.

In both wet and dry climates, recessed and sheltered areas usually become more heavily soiled because of the lack of rain washing. Frequent and longer periods of condensation also occur in protected areas increasing the adhesion of the soil. This is particularly true of soffit areas on some overhangs, bottom areas of fascia panels, sheltered column covers and the like.

Periodic maintenance inhibits long-term accumulation of soil which, under certain conditions, can accelerate weathering of the finish. The more frequently aluminum is cleaned, the easier and less costly succeeding maintenance is. It is recommended Pure + FreeForm be consulted for proper cleaning schedule.

3.3 In any case, the aluminum cleaning schedule is to be integrated with other cleaning schedules for efficiency and economy. For example, both the glass and the aluminum curtain wall on the same building can be cleaned at the same time.

4.0 Cleaning Procedures and Care After Installation

Construction soils, including concrete or mortar, etc., should be removed as soon as possible. The exact procedure for cleaning will vary depending on the nature and degree of soil. When selecting a method of cleaning and type of cleaner, consideration should be given to all other materials that may be adversely affected by the wash of the cleaning process. Try to restrict cleaning to mild weather. Cleaning should be done on the shaded side of the building or ideally on a mild, cloudy day.

4.1 Removal of Light Surface Soil on Organic Coatings

Removal of light surface soil may be accomplished by alternative methods as described in Sections 4.1.1, 4.1.2, 4.1.3 and 4.1.4. Only trial and error testing employing progressively stronger cleaning procedures can determine which will be most effective. Begin the cleaning process at the top of the building by rinsing an area the width of the stage or scaffolding to the ground level in continuous drop with water spray. This should be done at the beginning and the end of each drop regardless of the final cleaning materials employed.

4.1.1 The simplest procedure is to flush the surface with water using moderate pressure to dislodge the soil. If soil is still adhering after drying, then a mild detergent will be necessary. Using high pressure water may cause a deleterious effect to the finish and should be avoided.

4.1.2 When mild detergent or mild soap is necessary for removal of soil, it should be used with a soft cloth. The washing should be done with uniform pressure, cleaning first with a horizontal motion and then with a vertical motion. Apply cleaners only to an area that can be conveniently cleaned without changing position. The surface must be thoroughly rinsed with clean water. It may be necessary to sponge the surface while rinsing, particularly if cleaner is permitted to dry on the surface. The rinsed surface is permitted to air dry or is wiped dry with a soft cloth or paper towel.

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4.1.3 Run-down of cleaner (from any operation) to the lower portions of the building should be minimized and these areas should be rinsed as soon as and as long as necessary to lessen streaking, etc., from unavoidable rundown, lower areas should be kept wet or flooded with water. Do not allow cleaning chemicals to collect on surfaces or to "puddle" on horizontal surfaces, crevices, etc. These should be flushed with water and dried. Always clean coated surfaces down from top to bottom and follow with a thorough rinsing with clean water. (With one-story or low elevation buildings, it is recommended to clean from bottom up and rinse from top down.)

4.1.4 Mild soaps or detergents ruled safe for bare hands should be safe for coated aluminum. Stronger detergents should be carefully spot tested and may necessitate rubber gloves, long handled brushes, etc. With any soap or detergent, the finish should be thoroughly rinsed with clean water and dried.

4.2 Removal of Medium to Heavy Surface Soil on Organic Coatings

4.2.1 Stronger solvent or solvent containing cleaners may have a deleterious or softening effect on paints. To prevent harm to the finish, these types of solvent or emulsion cleaners should be completely avoided. Please consult Pure + FreeForm before attempting to use any solvent or solvent containing cleaner.

4.2.1.1 It may be possible for solvents to extract materials from sealants which could stain the painted surface or could prove harmful to sealants; therefore, these possible effects must be considered. Test a small area first.

4.2.2 If cleaning of heavy surface soil has been postponed or in the cases of an especially tenacious soil, stubborn stains, etc., a more aggressive cleaner and technique may be required. Cleaner and technique should be matched to the soil and the painted finish. Some local manual cleaning may be needed at this point. Always follow the recommendations of the cleaner manufacturer as to proper cleaner and concentration. Test-clean a small area first. Cleaners should not be used indiscriminately. Do not use excessive, abrasive rubbing as such may alter surface texture or may impart a "shine" to the surface.

4.2.2.1 Concrete spillage that has dried on the painted surface may become quite stubborn to remove. Special cleaners and/or vigorous rubbing with non-abrasive brushes or plastic scrapers may be necessary. Concrete spillage should be avoided in all cases likely the vigorous nature of cleaning this will damage the finish irreparably. Contact Pure + FreeForm before attempting to remove concrete spillage.

4.2.3 Never mix cleaners together. The mixing of cleaners may not only be ineffective, but also very dangerous. For example, mixing of chlorine containing materials such as bleaches, with other cleaning compounds containing ammonia, can result in poison gas emission.

4.2.4 Always rinse after removal of any surface soil.

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4.3 Inspection

It is suggested that the building owner provide an engineer or representative to inspect the cleaning work to ensure satisfactory clean appearance of the building.

4.3.1 Metal seams, crevices, sills, and any other area that may trap water, cleaner or dirt must be cleaned and thoroughly dried. These "trap" areas must be hand-wiped with absorbent towels or cloths to prevent rundown streaks or "puddling" which will later cause discoloration.

4.3.2 Inspect metal surfaces for any discoloration or stains not removed during cleaning operations. Soil or discoloration's remaining should be manually cleaned in accordance with sections 4.1, 4.2 and 4.3 until a satisfactory appearance is achieved. Stubborn surface soils should be removed in a uniform direction using a soft cloth and mild cleaning solution.

5.0 Cleaning Precautions

Here is a common sense summary of cleaning recommendations for Pure + FreeForm finishes.

5.1 Correctly identify the aluminum finish to be cleaned when selecting an appropriate cleaning method. Check specifications and/or "as-built" drawings if in doubt as to the finish.

5.2 Never use aggressive alkaline or acid cleaners on Pure + FreeForm finishes. Do not use cleaners containing trisodium phosphate, phosphoric acid, hydrochloric acid, hydrofluoric acid, fluorides, or similar compounds on anodized aluminum surfaces. Strong solvents or abrasive cleaners can cause damage to painted surfaces. Only neutral detergent should be used. In the case that a neutral detergent does not remove the surface residue, a weak alkaline cleaner can be used. Test-clean a small area first at client's own responsibility. When working with a weak alkaline cleaner, always follow the cleaner manufacturer's recommendations as to the proper concentration. Different cleaners should not be mixed.

5.3 It is preferable to clean the metal when shaded. Do not attempt to clean hot, sun-heated surfaces since possible chemical reactions on hot metal surfaces will be highly accelerated and non-uniform. Also, avoid cleaning in freezing temperatures or when metal temperatures are sufficiently cold to cause condensation. Surfaces cleaned under these adverse conditions can become so streaked or tainted that they cannot be restored to their original appearance.

5.4 Apply the cleaning solution only to an area that can be conveniently cleaned without changing position. Thoroughly rinse the surface with clean water before applying cleaner. Minimize cleaner rundown over the lower portions of the building and rinse such areas as soon as practical.

5.5 Strong cleaners should not be used on windows and other building accessories where it is possible for the cleaner to come in contact with the aluminum. Solutions of water and mild detergents should be tried first. If an aggressive cleaner is required for some other component of the building, care must be taken to prevent the cleaner from contacting the aluminum finish.

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NOTE: Care should be taken to avoid over spray or run-off of cleaner onto other buildings components such as glazing materials, weatherstripping sealants, etc.

5.6 Do not use excessive abrasive rubbing to remove stubborn stains. Such procedures can produce an undesirable appearance or adversely affect the finish.

5.7 The type and frequency of cleaning and coating will vary with the amount of atmospheric soil and dirt accumulated on the surfaces and the owner's desires regarding appearance.