

CLEANING AND RESTORATION OF
ARCHITECTURAL ANODIZED ALUMINUM
SECTION 05900-1

PART 1 - GENERAL

1.1 SUMMARY

- A. Work on this project shall consist of, but is not limited to, the following:
1. Clean and treat all exposed anodized architectural cladding including window wall framing to be free of atmospheric soiling, staining, surface deposits and other contaminants that can effectively be removed by detergent cleaning and the manual abrasive treatment method. The cleaning process shall not adversely effect or damage the existing anodized finish. A wipe-on air-dried clear protectant will be applied to the properly cleaned aluminum finish for protection and enhancement of the buildings' appearance.
 2. The work consist of manual cleaning and surface protectant application in accordance with the details, specifications, manufacture's recommendations, good workmanship and industry standards.
- B. Related Sections include following:
1. Section 07920 Sealants
 2. Section 09960 High Performance Coatings

1.2 REFERENCES

- A. Industry Standards Reference: The work shall be performed in accordance with American Architectural Manufacturers Association Publication No. AAMA 609-93 - *Voluntary Guide Specification for - CLEANING AND MAINTENANCE OF ARCHITECTURAL ANODIZED ALUMINUM*, unless specifically agreed to otherwise.

1.3 SUBMITTALS

- A. Submit to the Architect the following:
- B. Manufacturer's literature for each product proposed for use
- C. Physical samples for each product proposed for use including:
1. Cleaning detergents
 2. Abrasive powders
 3. Abrasive cleaning pads
 4. Clean-up solvent
 5. Other cleaning/abrasive products

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1.4 FIELD MOCKUPS

- A. A sample area shall be selected by the Architect and shall consist of a representative area of the building. All samples shall be performed only in designated areas.
- B. The sample area will be of sufficient size for the Contractor to perform the work required to complete the surface cleaning and protectant application as specified.
- C. The sample area when approved by the Architect for quality, material and workmanship, will become the standard for the duration of the project.
- D. No work will be performed on the building until the above specified sample is performed by the Contractor and is accepted by the Architect or owner's representative.

1.5 QUALITY ASSURANCE

- A. The Contractors means, methods and materials shall be submitted with the bid documents and shall be subject to the acceptance of the Architect and Owner.
- B. All materials shall be used and applied according to manufactures instructions and specifications.

1.6 QUALIFICATIONS

- A. Contractor: Must have a minimum of ten (10) years of experience with a successful record in the restoration of weather architectural anodized aluminum high rise office structures with references acceptable to the Architect and Owner.
- B. Contractors Field Technicians: Trained and skilled employees with have proven experience in work typical of this project and acceptable to the Architect and Owner.
- C. Manufacturer: Must have a minimum of ten (10) years of experience manufacturing products that have demonstrated proven field performance as those specified herein.
- D. Pre-qualified Contractor: Stuart Dean Company, Inc. meets the Contractors Qualifications requirements for the work of this section.
- E. Other proposed contractors for the work of this section must submit a successful record of completion for projects of the same scale and nature, including the type of coating system specified herein, to be considered qualified for approval.

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- F. Proposed specialty contractors for the work of this section must be submitted for approval to the Architect not less than five (5) days business days before the bids due date.
- G. Prior to award of contract, the contractor proposed for the work of this section will, upon request, give an oral technical presentation to include the following topics:
 - a. Review of qualifications for company and personnel
 - b. Describe jobs of similar size and type completed in recent years
 - c. Describe process and order that tasks would be performed
 - d. Describe how rigging would be used with safety precautions
 - e. Describe precaution taken to prevent adverse effects caused by the work to façade surfaces
 - f. Describe precautions taken to protect personnel, vehicles and vegetation below
 - g. Describe the chemicals proposed for use and how they will be used and stored
 - h. Describe approach for getting the work done within the time frame specified and the effect of weather on the work
 - i. Describe the level of supervision that will be on the job
 - j. Describe other considerations related to surface treatment now and the effects on maintenance schedules in the future
 - k. Respond to Q & A

1.7 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. All materials shall be delivered to the job site in manufacturer's sealed packaging, properly labeled with product and manufacturer's name, lot number, safety and clean-up instructions and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises.
- B. All materials received at the site shall be unloaded with care and handled to avoid any damage or contamination of the materials.
- C. All materials shall be stored, covered and protected from the weather in strict accordance with the manufacturer's recommendations. The Owner shall approve the location for storage for all materials stored on-site.
- D. All materials shall be removed from the work area and stored properly at the end of each day.

1.8 WARRANTY

The Contractor shall warrant that the surface protectant will not peel, chip or flake and will remain bonded to the substrate for three (3) years from the date of initial application.

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PART 2 - PRODUCTS

2.1 MATERIALS

- A. Mild detergent-liquid or powder, non-etching, diluted and mixed with potable water
- B. Non-abrasive scrub brushes or sponges
- C. 3M-ScotchBrite Cleaning pads as recommended by manufacturer
- D. Sodric™ - Wipe-on Surface Protectant
- E. VOC compliant clean-up agents
- F. Power tool are not permitted without prior approval

PART 3 - EXECUTION

3.1 REMOVAL OF LIGHT SURFACE SOIL

- A. Begin cleaning by rinsing an area the width of the stage or scaffolding with forceful water spray to flush the surface and dislodge soil.
- B. Clean the surface with a non-abrasive brush or sponge and use a water spray on the surface while brushing or sponging.
- C. Following the above cleaning, where soil remains adhered to the surface, use a mild detergent cleaner with a brush or sponge using uniform pressure in the direction of the grain in the metal. Rinse the surface thoroughly by spraying with clean water and thoroughly dry. Do not allow cleaner to dry on surface before water rinsing.
- D. Brushing, scrubbing, towel wiping and/or sponging the entire surface is necessary to provide a uniform finish.
- E. While water rinsing, avoid run-down of cleaner/rinse water and pooling of cleaner on horizontal areas below. Continue rinsing and drying to prevent staining of areas below the surface being treated.

3.2 REMOVAL OF HEAVY SOIL, SURFACE DISCOLORATION /DEPOSITS OF METAL OXIDES

- A. In locations where surface soil remains after following the above procedures, utilize abrasive materials that are compatible and non-destructive to the anodized finish by:
 - 1. Follow step 3.1 A. above and dry the surface.
 - 2. Using a suitable palm sized abrasive pad, scrub the area with clean water or a mild detergent cleaning agent in a uniform

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manner being careful to follow the grain of the metal to remove the surface deposits and achieve a smooth surface.

3. Rinse the surface thoroughly by spraying with clean water and then sponge thoroughly dry via lint-free towel, squeegee or chamois. Do not allow cleaner to dry on surface before water rinsing.
 4. Inspect the surface after drying to determine if it is necessary to repeat the above process.
 5. Tenacious deposits/stains can be treated with a combination of the above abrasive pad and a carefully selected pumice powder such as grade 000.
 6. Repeat 3.1 A. 2 and 3 above if step 5 is deemed necessary and likely to improve the visual appearance of the area.
- B. Care must be taken to avoid damaging the finish by over-scrubbing
The above detailed cleaning process is designed to correct and improve conditions without damaging the anodized finish. Areas with conditions such as deeply etched stains as well as advanced and widespread pitting cannot be corrected by cleaning and scrubbing. These locations have suffered irreparable damage. Existing surfaces deteriorated as such should only be cleaned and not more than lightly abraded. Further abrasive cleaning will only expose more raw aluminum that has no corrosion resistance due to loss of the original anodic protective layer.
- C. Rinse with water and dry all adjacent surfaces affected by the restoration process including windows, spandrel glass, sealant joints, horizontal surfaces etc.
- D. Use appropriate cleaning solvents with extreme care to remove contaminants that are not water-soluble. CAUTION: Solvents can be toxic and flammable. Follow all safety precautions in accordance with product Material Safety Data Sheets to avoid injury to workers and fire hazards

3.3 APPLICATION OF SURFACE PROTECTANT

- A. After the substrate is thoroughly cleaned and dry, apply the surface protectant to all exposed anodized architectural cladding including window wall framing.
- B. Carefully follow all manufactures instructions required for proper surface conditions and application.
- C. Do not apply protectant when conditions are not favorable due to moisture, temperatures outside of recommended high/low ranges etc.

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For application around windows, doors, entrances, extruded shapes and irregular surfaces a soft lint-free cloth folded into a pad-like shape. Wet the cloth thoroughly with the material and wring out excess. Fold the damp towel (not dripping wet) and wipe briskly with uniform pressure. Always wipe in a uniform, single-direction pattern from top to bottom or left to right following the grain.

- D. Do not permit puddles or accumulation of protectant on the horizontal surfaces.
- E. Utilize an applicator tool that spans the entire panel width to avoid overlap marks.
- F. Apply uniform edge pressure on the top of the panel moving in on the vertical stroke to the extreme bottom to provide a uniformly "wet" surface without runs, sags, drips or streaks.
- G. For locations that are not accessible or efficient for the applicator tool (narrow or irregular configured shapes, corners, edges, etc.) these surfaces should be coated using the folded lint-free cloth method by hand.
- H. Apply the protectant to achieve a dry film thickness of .5 to 1 mil
- I. CAUTION: Follow all safety precautions in accordance with product Material Safety Data Sheets to avoid injury to workers and fire hazards.
- J. During application, cleanup and remove excess protectant from adjacent surfaces

END OF SECTION