

## CARE AFTER INSTALLATION OF PAINTED STEEL & ALUMINUM

### General Considerations

Care and maintenance guidelines for anodized aluminum also apply to painted steel. The Architect depends on the finish to provide the beauty in the building he has designed. The building owner and manager want to preserve this beauty, thereby maintaining the property's desirability and profitability.

This specification covers procedures for sheet and extruded aluminum products as well as painted steel found in curtain wall, window and storefront construction.

Organic aluminum coatings do generally not show a considerable amount of dirt accumulation. In many atmospheres, dirt and soil would not be detrimental to the coating, but cleaning and surface care may be desirable for appearance. In areas where heavy industrial deposits have dulled the surface, where materials from construction processes have soiled the surface or the cleaner has run down from other surfaces, surface cleaning is desirable.

Climatic conditions affect the cleanliness of organic coatings in the same way they affect anodized coatings. In some areas, rainfall may be sufficient to keep exterior surfaces looking clean and bright. In areas of low precipitation or heavily industrialized areas, periodic cleaning will be necessary. This is also true of foggy coastal regions with frequent condensation cycles and drying, which may cause a buildup of atmospheric salts and dirt. In any climate, sheltered areas under overhangs may become soiled from lack of rain washing. Cleaning painted aluminum components in the exterior wall may be scheduled along with cleaning the glass.

Suppose automatic wall cleaning equipment is to be used in a building. In that case, a test should be made early in the equipment design to ensure that the cleaning solutions and brushes and the frequency of cleaning will have no detrimental effect on the coating.

### Cleaning Procedures

Painted surfaces should be cleaned as soon as possible after installation to remove construction soils and accumulated environmental soils. Ideally, a forceful water rinse from the top down should be employed before applying any cleaner. Some surface agitation helps. A low volume of water at moderate pressure is better than a high volume at low pressure. Rubbing the surface is better than a high volume at low pressure. Rubbing the surface with soft brushes, sponges, or cloth during the rinsing also helps.

If a simple water rinse with brushing, sponging, or rubbing with a cloth is not sufficient to remove the soil, a mild detergent or mild soap will be necessary.

Washing with a mild detergent or mild soap should be done by brushing or sponging with uniform pressure, first horizontally, then vertically. Following the washing, the surfaces must be thoroughly rinsed with clean water. If the cleaner has been permitted to dry, it may be necessary to sponge the surface while rinsing. Rinsed surfaces may be allowed to air dry or may be wiped with a chamois, squeegee, or lint-free cloth.

The cleaner run-down should be rinsed immediately, and as long as necessary, to lessen the streaking probability.

Cleaning chemicals must not be allowed to collect on the surface, to "puddle" on horizontal surfaces, or to collect in joints and crevices. These surfaces, joints, and crevices should be thoroughly flushed with water and dried.

Mild detergents and soaps which are safe for bare hands should be safe for coated aluminum. Stronger detergents such as some dishwasher detergents should be carefully spot tested. Some of the latter would necessitate using rubber gloves and long-handled brushes. Some mild cleaning solutions are available for automatic building washing machines.

Mild solvents such as mineral spirits may be used to remove grease, sealant or caulking compounds. Stronger solvents or solvents containing cleaners may soften paints. To prevent damage to the finish, the coating manufacturer should be consulted, and these types of solutions or emulsion cleaners should first be spot tested. Care should be taken to ensure that no surface marring occurs in this manner since it could give an undesirable appearance at certain viewing angles. Cleaners of this type are usually applied and removed with a clean cloth. The remaining residue should be washed with mild soap and rinsed with water. Use solvent cleaners sparingly.

Since solvents may extract materials from sealants that could strain the painted surface or prove harmful to sealants, their possible effects must be considered. **Test a small area first.**

If cleaning heavy tenacious surface soil or stubborn stains has been postponed, a more aggressive cleaner and technique may be required. The cleaner and method 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 since it may alter the surface texture or impart a "shine" to the surface.

Dried concrete spillage on the painted surface may be quite stubborn to remove. Special cleaners and/or vigorous rubbing with non-abrasive brushes or plastic scrapers may be necessary.

Diluted solutions of Muriatic acid (under 10%) may be useful in removing dried concrete stains, and effective proprietary cleaners for concrete should be tried first, and proper handling precautions must be followed for safety reasons.

Mixing cleaners may be not only ineffective but also very dangerous. For example, mixing chlorine-containing materials such as bleaches with other cleaning compounds containing ammonia can produce poison gas.

Always rinse the surface after removing heavy surface soil.

### Summary of Cleaning Tips

- Overcleaning or excessive rubbing can do more harm than good.
- Strong solvents can cause damage to painted surfaces.
- Avoid abrasive cleaners. Do not use household cleaners that contain abrasives on painted surfaces.
- Abrasive materials such as steel wool, abrasive brushes, etc. can wear and harm finishes.
- Avoid drips and splashes. Remove run-downs as quickly as possible.
- Avoid temperature extremes. Heat accelerated chemical reactions and may evaporate water from the solution. Extremely low temperatures may give poor cleaning results. Cleaning under adverse conditions may result in streaking or staining. Ideally, cleaning should be done in the shade at a moderate temperature.
- Do not substitute a heavy-duty cleaner for a frequently used mild cleaner.
- Do not scour painted surfaces.
- Never use paint removers, aggressive alkaline, acid or abrasive cleaners. **Always do a test surface.**
- Follow manufacturers' recommendations for mixing and diluting cleaners.
- Never mix cleaners.
- To prevent marring, make sure cleaning sponges, cloths, etc. are grit-free.
- "An ounce of prevention is worth a pound of cure."
- In addition to the foregoing, consideration must be given to the effects run-down may have on shrubbery, personnel, equipment, and other items located below. Such factors may affect the timing of the cleaning schedule.