

Enclosure 1: Inspection & Maintenance Guidelines

Scope

This recommendation covers procedures for cleaning and maintaining coated aluminium roof covering and wall cladding.

Purpose

These recommendations are intended to assist architects, contractors, owners, building managers, etc., where concerned with the care and maintenance of coated architectural aluminium. The information contains recommended methods as an aid in establishing safe, sound cleaning and maintenance practices with respect to coated aluminium roof covering and wall cladding.

Inspection

It is recommended that the building owner provide a qualified inspector who will see that the desired effect is being obtained with the use of sound cleaning and maintenance procedures.

Two inspections per year and associated cleaning of all areas is required for Limited Warranty coverage. Cleaning is vital in areas where 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. Local conditions as well as building location within a geographical area quite naturally have an effect on cleanliness.

Regular inspection and maintenance should consist of:

- checking the condition of the sealants, fasteners and flashings to ensure water tightness
- examining local defects (e.g. scratches) that may cause early deterioration of the coating or corrosion of the substrate
- removing any blockage in gutters to avoid overflow or build-up
- removal of leaves, grass, mold and other objects and debris
- removal of dirt in areas of cladding not rinsed naturally by rainwater • removal of graffiti or other marks

Cleaning of coated aluminium may be scheduled with other cleaning. For example, glass and painted aluminium components can be cleaned at the same time.

Cleaning is specifically required in areas of low rainfall or in industrialized areas. Foggy coastal regions with cycles of condensation and drying may tend to cause a build-up of atmospheric salts and dirt. In any climate, sheltered areas, such as overhangs, may become soiled due to insufficient rainwater rinsing. Thorough rinsing is especially important after cleaning of these sheltered areas.

If automatic or pressure-based wall cleaning equipment is to be used on a building, a test should be made early in equipment design to ensure that the cleaning solutions, brushes, as well as the frequency of cleaning should be taken into consideration to ensure no detrimental effect on or to the coating.

Maintenance

Cladding and roofing must be inspected and properly maintained twice per year in accordance with Euramax's "Inspection, maintenance and repair guidelines" in order for your Limited Warranty to apply. Fully documented and corroborative cleaning records must be kept during the Limited Warranty period and provided to Euramax when exercising your Limited Warranty rights.

Cleaning procedure and care after installation

After completion of the building, special attention should be paid to fixings, damages to the coating, drilling shavings, pop rivet systems and general building debris.

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. 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. Method of cleaning, type of cleaner, etc. of one component of the building must be used with consideration for other components such as glass, sealant, painted surfaces, etc.

Removal of light surface soil

Removal of light surface soil may be accomplished in several ways. Some testing is recommended to determine the degree of cleaning actually necessary to accomplish the task. Ideally, an initial step of forceful water rinse from the top down is recommended prior to any cleaner application. Significant benefit is gained with some type of surface agitation. Low water volume with moderate pressure is much better than considerable volume with little pressure. Physical rubbing of the surface with soft, wet brushes, sponges or cloth is also helpful.

The simplest procedure would be to apply the water rinse with moderate pressure to dislodge the soil. If this does not remove the soil, then a concurrent water spray with brushing or sponging should be tested. If soil is still adhering after drying, then a mild detergent will be necessary.

When a mild detergent (Ph7) or mild soap is necessary for removal of soil, it should be used with brushing or sponging. 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 can be air dried or wiped dry with a chamois, squeegee or lint free cloth.

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 reduce streaking etc. from unavoidable run down. Do not allow cleaning chemicals to collect on surfaces or to "puddle" on horizontal surfaces, crevices, etc. These areas should be flushed with water and dried via air or wiped dry with a chamois, squeegee or lint free cloth. 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). To avoid water stain, the surface should be wiped.

Mild detergents

Mild soaps or detergents ruled safe for bare hands should be safe for coated aluminium. Stronger detergents such as some dishwasher detergents should be carefully spot tested. Some of the latter may require rubber gloves, long handled brushes, etc. With any of these, the finish should be thoroughly rinsed with clean water and dried via air or wiped dry with a chamois, squeegee or lint free cloth. Some mild cleaning solutions, which consist of selected wetting agents in water solution, are available for automatic building washing machines. These machines would have built in brush agitation, squeegee, filtrations and recirculation; in some, a fresh water connection may be provided.

Cleaning of medium to heavy soil

Some type of mild solvent such as mineral spirits may be used to remove grease, sealant or caulking compounds. Stronger solvent or solvent containing cleaners may have a deleterious or softening effect on coatings; accordingly, great care should be taken. To prevent harm to the finish, these types of solvent or emulsion cleaners should be soap tested and preferably the coating manufacturer should be consulted. Care should be taken to assure that no marring of the surface is taking place in this manner since this could cause an undesirable appearance at certain viewing angles. Cleaners of this type are usually applied with a clean cloth and removed with a cloth. Remaining residue should be washed with mild soap and rinsed with water. Use solvent cleaners sparingly.

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

If cleaning of a heavy surface soil has been postponed or in cases of tenacious soil, stubborn stains, etc., then 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. Cleansers should not be used indiscriminately. Do not use excessive, abrasive rubbings as such may alter surface texture or may impart a "shine" to the surface.

Concrete spillage that has dried on the coated surface may become quite difficult 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 effective in removing dried concrete stains; however, a small test clean area should be tried first, and proper handling precautions must be exercised for safety reasons.

Never mix cleaners

Never mix cleaners. Doing so may be ineffective, and worse, very dangerous. For example, mixing chlorine containing materials, such as bleaches, with other cleaning compounds containing ammonia can cause poisonous gas emissions. Always rinse the coated material after removal of heavy surface soil.

Summary of general cleaning tips

- Over cleaning or excessive rubbing can do more harm than good.
- Strong solvents or strong cleaner concentrations 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.
- Cleaning should be done in shade at moderate temperatures. Avoid temperature extremes. Heat accelerates chemical reactions and may evaporate water from solution. Extremely low temperature may give poor cleaning effects. Cleaning under adverse conditions may result in streaking or staining.
- Do not substitute a heavy duty cleaner for a frequently used mild cleaner.
- Do not scour coated surfaces.
- Never use paint removers, aggressive alkaline, acid or abrasive cleaners, phosphate or highly alkaline or highly acid cleaners.
- Follow manufacturers recommendations for mixing and diluting cleaners.
- Never mix cleaners.
- To prevent marring, make sure cleaning sponges, cloth etc. are grit free.
- Always test clean a small surface.
- "An ounce of prevention is worth a pound of cure".

Repair

Damage may be found on the surface of the coating when cleaning or otherwise maintaining the coated roof covering or wall cladding. Paint repair should be restricted to small areas (max. 5.0 m²). Any significant repair work should be discussed with your supplier to retain warranty benefits!

Execution when no corrosion is found:

- The damaged surface should be washed and dried as described above.
- A recommended touch-up paint should be applied for protective and aesthetic reasons.

Execution with small corrosion defects:

- Remove the dust by abrading, scraping, and sand blasting to the bare material.
- Degrease the complete surface.
- Clean and dry the surface (as described above) before applying a repair paint system (primer and top coat) recommended by the material supplier.

Over painting / recladding

If it is deemed necessary to re-paint or re-clad large surfaces, contact Euramax before execution to keep any right of warranty claim.

Investigating the economic feasibility of over-painting the existing structure or replacing the coated sheets is recommended. In case of any questions about over painting please contact us. Using non-compatible systems of repair paints and original coated surfaces might cause undesired effects.