

CARE & MAINTENANCE OF METAL ROOFING

General

While your new metal roof system is designed to deliver many years of aesthetic appearance and protection with very little maintenance, all roofs require routine inspections and periodic maintenance. In order to insure that your roof performs as intended, you should develop and implement a comprehensive Inspection, maintenance and repair program.

I. Storage and Installation

Steps to protect precoated metal sheets against moisture before installation are important to prevent rusting (oxidation) of the metal substrate. When prepainted metal sheets which are stacked closely together or coil material are exposed to moisture and heat, discoloration and softening of the paint and oxidation or rusting of the metal substrate can begin. On galvanized steel substrates, the normal sacrificial reaction of the zinc coating will occur, forming a white powder. This type of oxidation can occur beneath the paint film.

Take the following steps to control oxidation damage during storage:

1. Minimize exterior storage time at the job site whenever possible.
2. Position cover panel and slanted bundles of metal sheets to insure proper drainage of rainwater or condensed water vapor. Eliminate sagging when moisture could collect and pool. Remove outer wrapping to prevent moisture from condensing in panel bundles.
3. Don't use moisture-trapping plastic tarpaulins to cover panels or coils. Allow adequate ventilation.
4. Reduce temperature build-up by protecting bundles or coils from direct sunlight exposure.

Proper handling and stacking during transit can help prevent abrasion damage. A common cause of abrasion damage which can easily be avoided is the dragging of whole sheets, edges or corners of metal panels against other panels during installation. If both the paint and galvanized coating are cut through, red rusting will be retarded by the sacrificial action of the zinc coating, but enough damage to the surface appearance can still occur to make a touch-up operation necessary.

Improper cutting and drilling of precoated metal sheets can also cause unsightly rust spotting. Hot chips -- from drilling, saws or cutting discs -- can get embedded in the paint finish and create premature rusting, making it seem that the surfaces are corroding. Chips from adjacent steel work can embed in the paint surface of unprotected metal sheets nearby. Eliminate this problem by shearing whenever possible. Protect the paint surface temporarily with a plastic cover when saws, drills or cutting disks are in use around it. Turning over prepainted sheets while cutting them so that chips will fall on the inside surface also helps.

Workers should take care to avoid stepping on or exerting pressure against any steel chips which could embed the chips in the paint film. Immediately brush steel chips off the paint surface, using a stiff fiber brush. If they've already become embedded, dislodge them by mechanical means.

Installed sheets should never be placed in contact with soil and soil should never be pushed against installed sheets for final grading. All grease, oil, dirt, fingerprints or any other contaminants should be removed after installation to ensure proper service life from the paint film.

II. Cleaning Coated Surfaces

Coil & Extrusion Coatings present a relatively non-adherent, inert surface to airborne soil. If needed, a variety of methods for removal of surface deposits is available. However, note these precautions:

- Do not use wire brushes, steel wool, sandpaper, abrasives or other similar cleaning tools which will mechanically abrade the coating surface.
- Some of the cleaning agents listed below should be tested in an inconspicuous area before use on a large scale. Always test a small area first.

Hot or Cold Detergent Solutions

A 5% solution in water of commonly used commercial and industrial detergents will not have any deleterious effect on a Coil or Extrusion surface. These solutions should be followed by an adequate rinse of water. Use cloth, sponges or a soft bristle brush for application. Cleaning should be done on the shaded side of the building or, ideally, on a mild, cloudy day.

Solvents

Most organic solvents are flammable and/or toxic and must be handled accordingly. Keep away from open flames, sparks and electric motors. Use adequate ventilation, protective clothing, and goggles. Remove non-water soluble deposits (tar, grease, oil paint, graffiti, etc.) from Coil & Extrusion surfaces using these solvents with caution:

- **Alcohols**

Denatured alcohol (ethanol)
Isopropyl (rubbing) alcohol
Methanol (wood alcohol)

- **Petroleum Solvents**

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

- **Aromatic Solvents**

Xylol (xylene)
Toluol (toluene)
(These solvents should be used with caution on a Coil & Extrusion surface. Limit contact to five minutes. Test a small area first.)

- **Ketones, Esters, Lacquer Thinner** Methyl ethyl ketone (MEK)

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

(These solvents should be used with **great caution** on a Coil or Extrusion surface. Limit contact to one minute. Test a small area first. Panel manufacturer and coating supplier are not responsible for damage from unrestricted use of these.)

- **Acetone/Paint Remover**

Do not use acetone or paint remover on Coil or Extrusion surfaces.

Chemical Solutions

- Sodium hypochlorite solution (laundry bleach, Clorox)
- Hydrochloric acid (muriatic acid)
- Oxalic acid
- Acetic acid (vinegar)

Hydrochloric acid (10% muriatic acid), diluted with ten volumes of water, may assist in removing rust or alkali mortar stains from Coil & Extrusion surfaces. Limit contact to five minutes.

Caution: Acid solutions are corrosive and toxic. Flush all surfaces with water after use. Oxalic acid solutions or acetic acid (vinegar) may be used for the same purpose. Flush with water after use. Laundry bleach may assist in removing certain stains.

Mildew Removal

Remove mildew with a basic solution of the following:

- 1/3 cup detergent (Tide, for example)
- 2/3 cup trisodium phosphate (Soilex, for example)
- 1 quart sodium hypochloride, 5% solution (Clorox, for example)

Rinse with clear water immediately.

Excess Sealant Removal

Precautions should be taken to prevent sealants from getting on the painted surface. Sealants may be very difficult to remove. If any does get on a Coil or Extrusion surface, it should be removed promptly with a solvent such as alcohol or a naphtha type. Caution: 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.

III. Refinishing Factory-Coated Panels & Accessories

Properly refinished exterior building panels and accessories have a "like-new" appearance that protects the substrate from the environment. Carefully selecting the type of coating, along with proper surface preparation and application, are all essential elements of long-term performance satisfaction. Use professional painting of the surface whenever possible. These paint systems are available through paint manufacturers such as Sherwin Williams, Tristar Coatings, AkzoNobel and others. Consult these paint manufacturers directly regarding applicable paint systems, surface preparation and application instructions, as this varies by paint manufacturer.