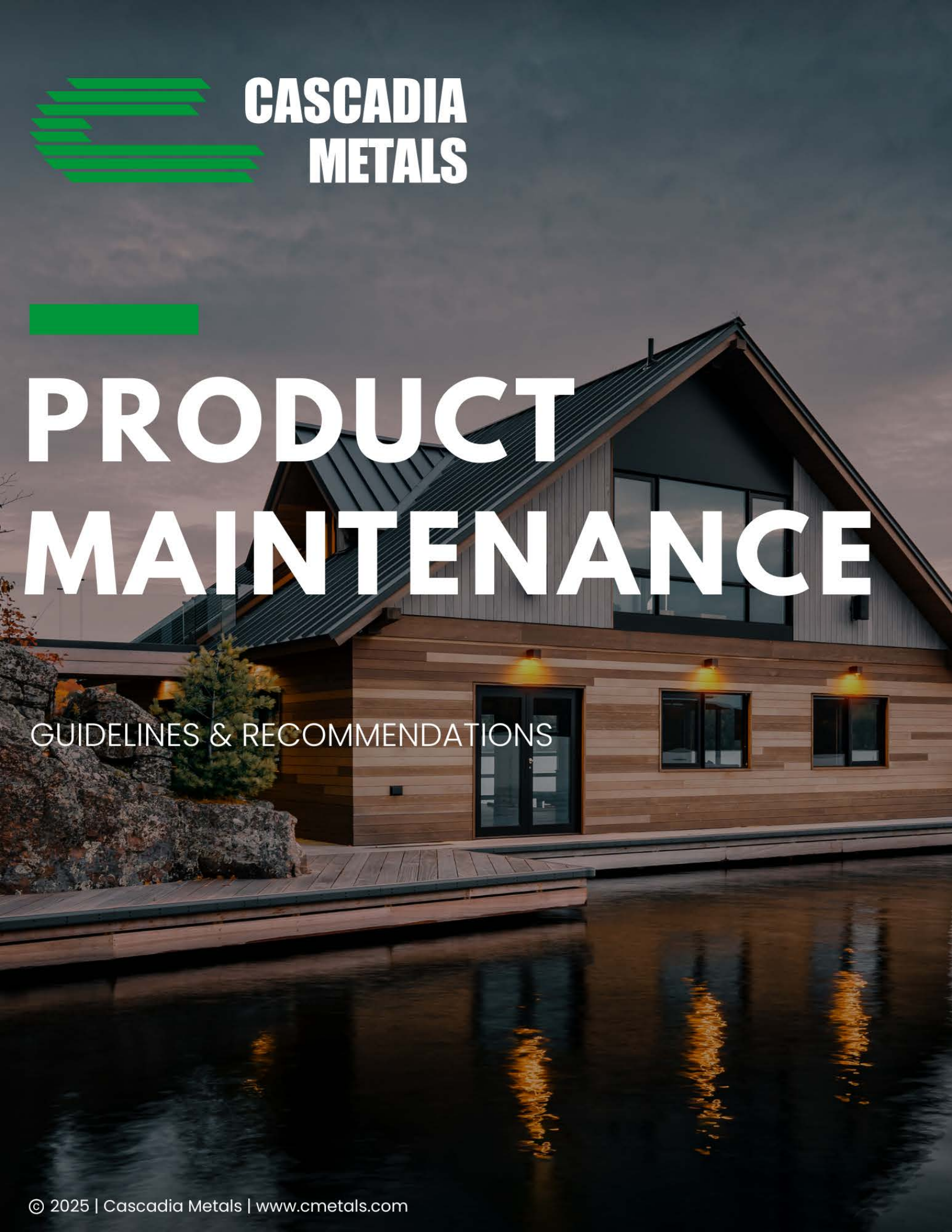
CASCADIA METALS

PRODUCT MAINTENANCE

GUIDELINES & RECOMMENDATIONS



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GUIDELINES

For The Field Maintenance of Pre-Painted Metal Roofing & Siding

Factory-applied finishes on metal building panels are engineered to deliver exceptional durability, outlasting conventional paints by many years. These high-performance coatings are designed to resist fading, chalking, and corrosion, ensuring long-term protection and visual appeal across a wide range of environments.

That said, even the most durable finishes benefit from regular care. In regions where rainfall is infrequent or unable to rinse surfaces naturally, routine cleaning becomes essential. Removing accumulated dirt, debris, and pollutants not only helps maintain the intended appearance of the finish but also supports its long-term performance. Whether you're an architect specifying materials, an installer handling on-site application, or a building owner maintaining your investment, understanding how to care for metal finishes is key.

Examples of applications requiring maintenance cleaning and inspection include:

- Garage doors
- Roof cladding
- Soffits
- Under eaves
- Underside of eave gutters
- Wall cladding

Getting Started

Washing should be done at least every six months and more frequently in coastal areas where marine salt spray is prevalent and in areas where high levels of industrial fallout occur. Mild solutions of detergents or household ammonia will aid in the removal of most dirt, and the following are recommended levels:

1) One cup of detergent (example - Tide®) which contains less than 0.5% phosphate, dissolved into five gallons of warm water. **(NOTE: The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning of building panels. NEVER BLEND CLEANSERS AND BLEACH.)**

2) One cup of household ammonia dissolved into five gallons of water (at room temperature).

GUIDELINES

On How To Prevent Wet Stacking

Pre-painted building panels have been successfully used for many years. In general, properly installed building panels under normal service conditions have excellent corrosion resistance. However, pre-painted building panels are subject to premature corrosion failures prior to installation, if they are not handled and stored properly on the job site. Excessive storage periods or poor storage conditions often result in water intrusion into panel bundles. Prolonged exposure of bundled panels to wet conditions can cause paint blistering and substrate corrosion. Wet Stack Corrosion in the right conditions can manifest itself in as little as 2 weeks, but typically after 4 weeks early stages of adhesion failure can be detected on panels.



Close up image of severe "Wet Stack Corrosion". Note smooth, normal surface in upper right corner.



Note when scratched, the primer has been compromised as well as the presence of Zinc Oxide (white rust).

Environmental and Service Conditions

Water is a necessary prerequisite for corrosion of stored pre-painted panels. When water or water vapor is available along the sides of a panel bundle, it may penetrate between the panels by capillary action.

If proper precautions are not taken during transport, water may be present between the panels upon delivery at the job site. Ambient humidity and temperature cycles will also promote water intrusion into stored panel bundles through condensation. Finally, rain and snow are other potential sources of water that can cause storage corrosion of pre-painted panels.

Besides water, two other important factors that contribute to the corrosion of stored pre-painted panels are temperature and exposure time. Corrosion will accelerate with increased temperature. Given enough time, panel bundles will eventually become wet and storage corrosion may occur under most job site panels. Storage corrosion can be prevented by:

- Reducing site storage time
- Decreasing water contact
- Moderating temperature extremes

Special case factors not considered here are the presence of aggressive soluble chemicals, such as sulfur and chlorine compounds, that might be present in polluted atmospheres, road salt contaminants, or marine environments. It is reasonable to assume that these soluble species would accelerate storage
corrosion.

Job Site Storage

Prolonged storage will always increase the likelihood of storage corrosion. Therefore, the best prevention is to minimize the storage time. Proper storage limits the collection of water from rain, snow and condensation on the panel surfaces. Under roof storage is always preferred. If panel bundles have to be stored outdoors, a number of precautions must be taken to prevent storage corrosion. The panel bundles should be stored in a level area out of the way of other construction activities to minimize the number of bundle movements required at the job site. If the bundles are stored on the ground, a plastic ground cover must be put down under the bundle to minimize condensation of water from the ground onto the panels. The bundles must then be raised off the plastic ground cover to avoid contact with water puddles, and allow for air circulation around the bundle to promote drying of condensed water.

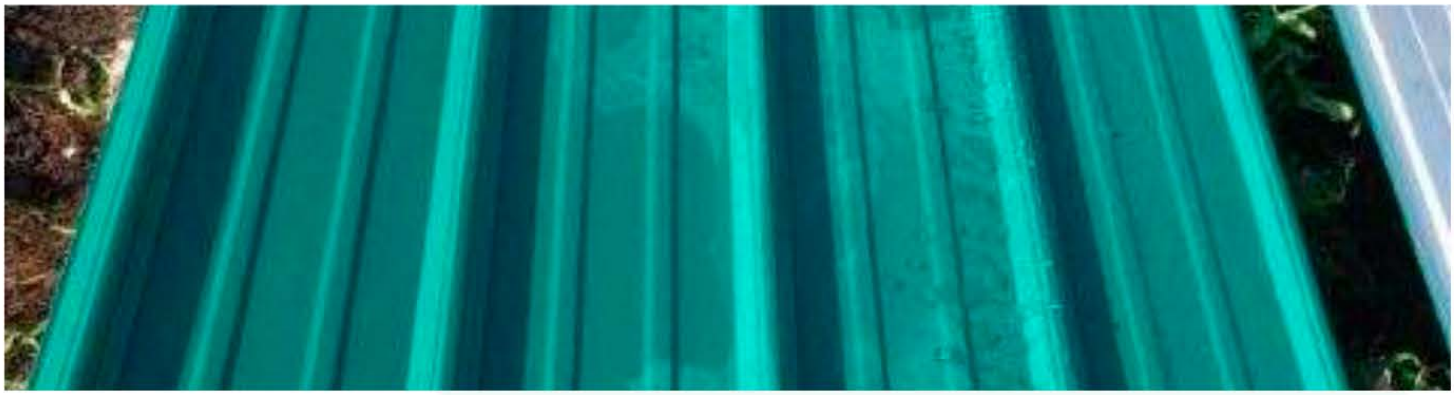
Wet, uncured or pretreated lumber should not come in contact with the panel bundles. The panels must be stored on an angle to promote drainage of water off the bundle. Sufficient support must be provided to the raised and angled bundles to avoid excessive bowing, which may result in low spots that could hold water.

The bundle must be completely sheltered with a loose fitting waterproof tarp to protect the bundle during rain or snow events, but allow for air circulation and drying of condensed water. A loose fitting tarp also shadows the bundle from direct sun light and should act to moderate high temperature extremes.



Insufficient support in the center of long panels allow "Bowing" or "Sagging" that traps water in the center of the panel length.

It is important not to snugly cover panels with a tarp when on the ground. By covering pre-painted panels in this manner, air flow is prevented and moisture in the ground under the tarp is trapped under the tarp and impregnates the bundle of panels. The effect is worse than just letting the bundles of pre-painted panels sit uncovered in the rain. This is because a "humidity chamber" has been created, and sunlight will heat the tarp and accelerate corrosion by means of increased humidity pulled from the ground below.



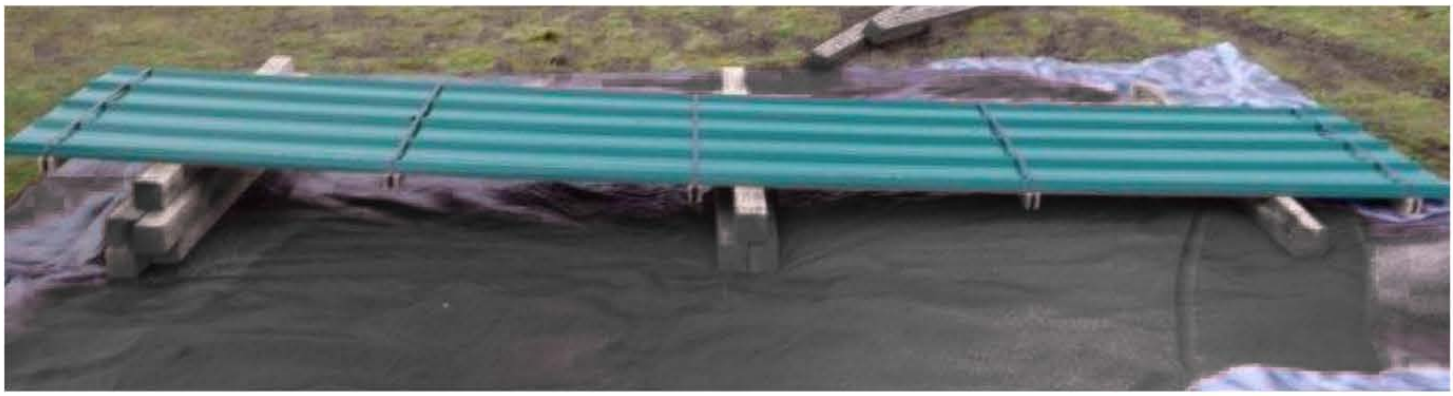
After just 3 months covered in the manner above, the panel bundle is opened to reveal that moisture has made its way into the layers of sheets.

Proper storage of bundled pre-painted panels is important and to some to be considered "time consuming and costly" to do. However, failure of your panels is an even more costly idea when you have to reorder and wait for delivery. Other costs associated with delays in jobsite completion as well as material replacement are things to consider when debating the use of proper storage methods.

NCCA Storage Methods

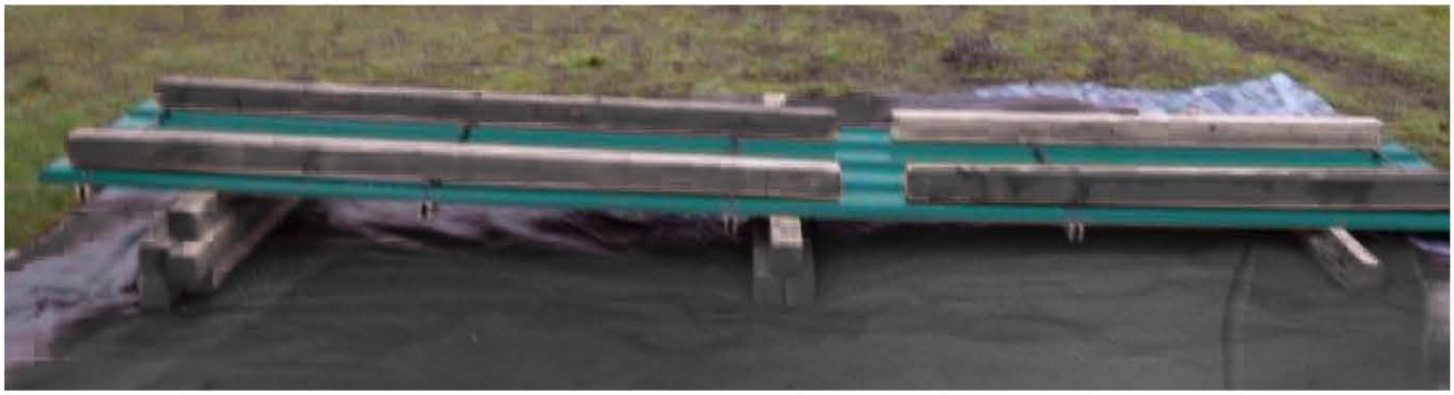
The **National Coil Coaters Association (NCCA)** has developed a time tested storage method for pre-painted, bundled panels. This document will lay out the steps for proper storage that will assure your panels remain dry and defect free when it comes time to install them on your structure.

STEP 01



Your pre-painted bundle should be placed on a tarp to prevent ground moisture from being a factor. The bundle should then be placed on top in a sloping position. This allows any moisture that may already be present to gravitate out.

STEP 02



Place scraps of dimensional lumber on the bundles "Cover Sheet". This is to keep the top tarp from resting directly on the panels to increase air flow which will allow moisture to escape.



If you roll the edges of the bottom tarp up as seen above, cutting a hole in the lowest area of the bottom tarp will allow water to escape.

STEP 03



Roll your top tarp over the stack allowing enough tarp to stretch out at least 12 inches from any edge of the panel stack.

STEP 04



While using stakes and elastic straps, pull the top tarp tight enough to keep the edge off the ground, creating air flow under the bundle. When completed, this method will increase storage life of your panels.

Unused portions of open bundles must be recovered. The condition of the tarps and paper wrapping of stored bundles should be inspected daily for damage, puddles and snow accumulation. Damage to packaging or tarps must be repaired and snow accumulation or puddles should be removed.

If water is present in the panel bundles, the panels must be separated and wiped dry with a clean soft cloth and stacked with a space between each panel, so that air circulation can complete the drying process.

There is currently no test method to determine the storage corrosion resistance of pre-painted sheet products that has been correlated with actual storage performance; although, there are a number of test methods that have been utilized by the building products industry.

Any technical information or advice in this bulletin is provided without charge as a service to the industry. The use of this information or advice may produce unexpected results, and any persons intending to make use of this information are urged to carry out tests of their own to satisfy themselves they are using the correct materials, approach, and techniques. Correctly following the information and advice should produce a satisfactory result but Cascadia Metals Inc. assumes no responsibility whatsoever in relation to such information or advice. Please ensure you have the most current Technical Bulletin.

