



# Metal Roof Installation Manual

## Chapter 17: Maintenance

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BUILD LEGACIES  
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# Chapter 17: Maintenance

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## 17. INTRODUCTION

By definition, maintenance is the care and up-keep of an item or property. Maintenance for a metal roof installation includes activities and materials the installer uses which are not directly involved in the installation of the roof system, but rather whose purpose is to protect and maintain the appearance and performance of the roof system as originally designed.

Roof maintenance actually begins during construction. The material covered in this chapter is intended to be used during a new or re-roof application of a metal roof system. It is *not* intended as a guide for a yearly, 5-year or similarly long-term maintenance program. The manufacturer of the roof system being installed should be contacted if such long-term maintenance information is desired.

### 17.1 Siding

An installer must interface with the structure siding during a roof installation, but attention should also be given to the siding at other times as well.

During a roof installation, the sides of the structure can be dirtied, marred, or damaged. The installer should inspect, evaluate, clean, and correct any siding problems caused by the roof installation. This may occur as material is stored, formed, and transported from the ground to the roof early in the installation. It may also occur during a re-roof installation as old material is removed and transported away.

While the roof installation is underway, or even during clean-up, the siding may also be affected. Eave, soffit, and rake work are often performed in close proximity to the side of the structure. This work may even involve the propping of ladders and other material against the siding while work is underway.



Figure 17-1  
Carelessness During the Roof Installation  
Can Damage the Structure Siding

As material is dropped, it often slides off the roof surface, and the siding may be damaged, as seen in Figure 17-1. Spills and runoff prior to the installation of a gutter or drainage system may also adversely affect the siding, as shown in Figure 17-2. During clean-up, dirt and debris are often "swept off the roof" and find their way onto the siding. Care should be taken in removing leftover material, tools, and any equipment from the roof to avoid damaging the siding.



Figure 17-2  
Spills and Runoff During Installation Often  
Affect the Structure Siding

### 17.2 Mortar

As seen in Figure 17-3, whenever possible, masonry work should be completed and dry before the roof is installed, but sometimes this is not possible. Mortar from masonry walls may severely etch the coating of roof

panels. Wet mortar and masonry is corrosive, while dried material is highly abrasive and can be tracked onto other portions of the roof causing further damage.



Figure 17-3  
Masonry Should Be Completed and Dry Before Roof Installation

Roof panels in areas where this work is being done should be protected. If mortar drops on the panels, like that in Figure 17-4, it should be cleaned off before it is allowed to dry.



Figure 17-4  
Mortar Droppings Should Be Cleaned Immediately.

**17.3 During Construction – Daily QC**

Daily maintenance during roof construction involves activities which protect, clean, and correct errors on portions of the roof system on which work was performed that day. This daily maintenance also acts a "Daily Quality Control" (QC), as well as improving job site safety.

**17.3.1 Protecting Roof Coating During Installation**

Once installed, the panel coating is the portion of the roof most likely to become damaged. The majority of this protection involves covering the surface until the last moment. Protecting the roof coating will involve keeping any factory-applied protective film on the panel until work safely moves away from that panel, establishing common walkways, and laying non-slip protective covering where necessary, covering any roof area where work is being performed by other trades such as masons, and where welding or soldering is taking place.

This protection also includes sweeping, cleaning, and touch-up of any damage which may have occurred during the day.

**17.3.2 Remove Strippable Film and Protective Coatings if Applicable**

Some paint types are more fragile than others, and often painted steel and aluminum surfaces are protected with a strippable plastic film. This film is applied during coil processing, and intended to help protect the finish during transit and installation. It is critical that the installer strip this film prior to prolonged exposure to sunlight, as it will become brittle and very difficult to remove after such exposure.

**17.3.3 Keeping Roof Clear of Debris**

Roof and gutters should be kept free of debris. This is a safety as well as a maintenance issue. Dirt and debris left on the roof will create a slippery, unsafe walking surface; absorb moisture, creating increased corrosion and rust; and have the potential to clog and jam the drainage system creating standing water, flooding, and possible ice jams.

Check and follow jobsite rules for trash removal. Some jobs require the roofing team



to collect and remove their own dirt, debris, and leftover material.

The area adjacent to the ridge and the area around roof projections are places where blowing debris can collect. Pay close attention inside the gutter, look for any fasteners, clips, hardware, and smaller items that may have been dropped and slid into the gutter system. If not removed, they will rust and corrode, and may create jams in the drainage system. Also closely examine the openings at the downspout locations and remove any jammed material. Refer to Section 17.3.7, *Daily Work Completed Checklist*, for additional details.

**17.3.4 Foot Traffic**

Keep foot traffic to a minimum. Walk in the flat of the panel between the corrugations and, as much as possible; walk at or near the supporting roof structural members.

When heavy or frequent foot traffic is anticipated, use walk boards or fabricated metal walkways (Figure 17-5) to protect the roof.

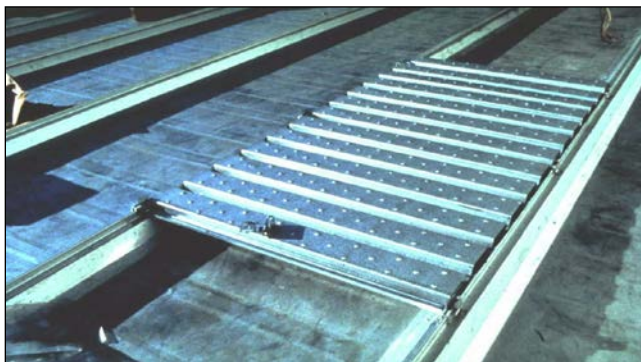


Figure 17-5  
Installed Walkway for Heavy Traffic Areas

This is particularly useful when regular maintenance of roof top units is required. Figure 17-6 shows such an application installed around HVAC units.

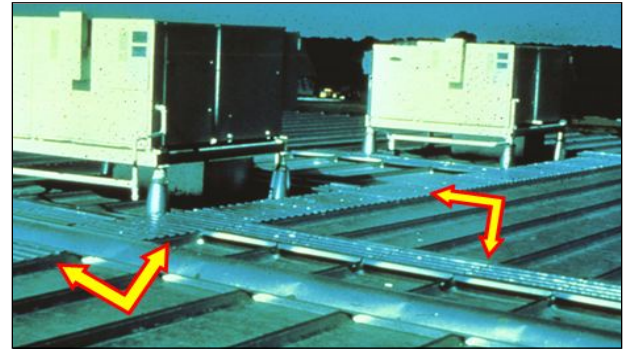


Figure 17-6  
Rooftop Walkways Installed Around Equipment

**17.3.5 Touch-up Paint (During Installation)**

In the event of surface scratching during installation, appropriate touch-up paints (normally supplied by the roof system manufacturer) will match the colors and attempt to match the performance requirements of the original roof panel paint.

Discretion should be exercised in their use. The touch-up paints supplied are often different resin types than the coil-coated material and will weather quite differently. Although the color match may be perfect at the time of touch-up, air-dried paint will fade more quickly and may be unsightly after a number of years. This is clearly evident in Figure 17-7. For this reason, touch-up paints should only be used when necessary, such as in the event of a severe scratch, and *then* applied only to the scratch itself with a small artist's brush.



Figure 17-7  
Touch-Up Paint Does Not Weather Like That of the Original Roof Panel

When touch-up paint is used by the installer, be sure to:

- Use only materials supplied and approved for use by the panel manufacturer.
- Follow all mixing and application instructions.
- Make sure the surface is clean and dry.
- Do not apply if the outside temperature is too hot or too cold.

If unsuitable touch-up paint is used, it may cause adhesion failures, differential chalking, and a faded appearance on the painted panel which may require the repainting of the entire affected surface, sometimes years after the initial installation was completed. The cost of such field painting can be substantial.

Remember that from an aesthetic standpoint, over-use of touch-up paint will be much more noticeable than the untouched scratch in several years' time. If surface scratching is indeed excessive and unacceptable, the material should be replaced rather than touch-up painted.

These same principles apply to the painting of other components in order to match pre-finished metal panels and flashings. Most touch-up paint applications will have very different weathering effects than the factory finishes, and can mismatch in a few years, even when the initial match is perfect. Whenever possible, use pre-finished sheet metal shrouds supplied by the roof system manufacturer to color-match other components and roof accessories, rather than air-dried paints. In the long run, this practice is often more economical.

### 17.3.6 Photos of Work in Progress

Today's technology has made documentation of work and job details amazingly easy and

necessary. A simple cell phone camera picture can document a pre-existing condition; work performed, but not visible at final installation; roof damage; and details of work completed. The ideas are numerous, but the following list of areas will help the installer understand where photographs can document, plan, and communicate important aspects of the job:

#### Prior to Start:

- Job site conditions
- Areas to stage material and equipment
- Existing roof conditions
- Areas of concern

#### During Installation:

- Daily progress
- Underlayment
- Hidden fastener details
- Touch-up
- Damage, spills, repairs

#### After Installation Completed:

- Work performed / completed
- Existing roof penetrations
- Avoids conflict on work performed after initial installation
- Details not visible from ground level
- Clean-up

In addition to an actual visual record, every digital photo has a date and time stamp automatically recorded with it, while some systems are able to store additional information with each picture. When these photos are attached to daily logs, inspection records, and other job documentation; a powerful and valuable record of the installation is formed which can serve many purposes.

### 17.3.7 Daily Work Completed Checklist

A valuable and effective tool for an installer is a daily checklist of the work and maintenance activities completed that day. When completed, signed, dated, and filed on a daily basis, the installer will have a documented record of the installation, along with any deviations, communications, issues, and corrections noted as they occurred during the job.

#### 17.3.7.1 Touch-up Paint (During Installation)

Refer to Section 17.3.5, *Touch-up Paint During Installation*, for touch-up details. The checklist should include any touch-up paint applied that day, who applied it, and where (within a reasonable amount of detail) the touch-up is located.

#### 17.3.7.2 Clean-up Metal Filings

The checklist should include the person responsible for clean-up of debris (Section 17.3.3, *Keeping Roof Clear of Debris*), especially any metal filings, chips, and shavings. This is one activity which should be done on a daily basis due to the rapid formation of rust, staining, and corrosion. Rain, humidity, dew, and condensation all provide enough moisture to enable the small metal pieces to rust and begin to corrode. This can result in panel damage as shown in Figure 17-8.

#### 17.3.7.3 Remove Dust and Debris

Section 17.3.3, *Keeping Roof Clear of Debris*, discusses details of roof clean-up. The checklist should include the names of those responsible. Make sure those performing this task are aware of jobsite rules for trash removal and locations for placing trash.



Figure 17-8  
Panel Damage Resulting From Metal Filings  
Left On the Roof Surface

#### 17.3.7.4 Remove Masking on Installed Panels and Trim

Details of this activity are documented in Section 17.3.2, *Remove Strippable Film and Protective Coatings if Applicable*. Adding this step to the daily checklist ensures that the protective covering does not remain on the roof panel any longer than necessary, reminds the installer to perform this important task, and documents that it has been done.

#### 17.3.7.5 Clear Valleys and Gutters

The roof areas most susceptible to collecting dirt and debris are valleys, gutters, and locations like those shown in Figure 17-9. Details of the cleaning of these areas are provided in Section 17.3.3 *Keeping Roof Clear of Debris*. Documenting and performing this on a daily basis during the installation avoids a build-up of dirt and debris. This type of material is easier to remove when dry and the amount of material is small. If allowed to get wet, it may dry, solidify, and become very difficult to remove.



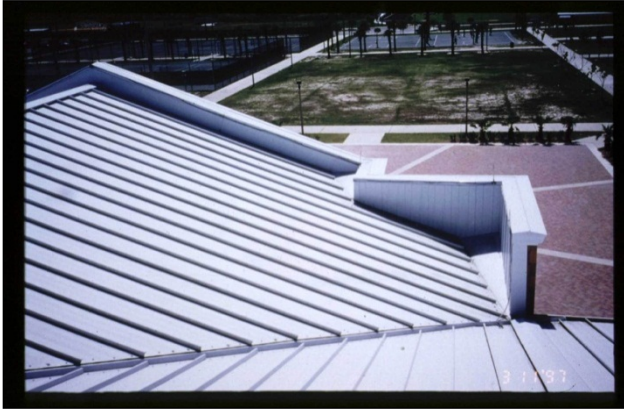


Figure 17-9

Roof Areas Like These Attract Dirt and Debris

If disagreements arise after the installation, which result in litigation, this daily checklist will be invaluable. Each log should be signed and dated, along with any comments, special issues, and notifications, which occurred during the day. It will also be helpful with larger crews to identify who performed some of the various activities, such as installed flashing or touched-up panels during the installation.

#### 17.4 After Installation Is Complete

For the installer of the roof, there are still a few maintenance items to be performed as the installation wraps-up and is completed. These maintenance items are very important and serve as a final check, inspection, and evaluation of the roof before "signing off the job." Refer to Chapter 19, *Installer Checklists*, for supplemental information.

These "post-installation" maintenance items include a final cleaning of the roof, development of a final "punch-list" of small items which need corrected, and any necessary paint touch-up the roof structure may require.

##### 17.4.1 Clean-Up

This final clean-up should take place after all leftover material, tools, and equipment, have been taken off the roof. Sometimes

this clean-up is quickly accomplished by including additional available roofing members, starting on the far side of the roof, and proceeding to the ladder, or egress point, of the roof. Moving in this direction eliminates walking over a previously cleaned surface, and presents the cleanest roof surface once the roof is vacated.

##### 17.4.2 Walking Roof to Create Punch List

Prior to the final roof clean-up, and when the installation is "completed," one or two experienced roofing team members should "walk the roof," covering every portion of the roof, carefully looking for items which need further attention and/or correction. This may include improperly secured fasteners, removal of excess sealant, alignment and adjustment of trim and /or panels, and any items that "don't look right."

These areas should be marked in a way that is easily spotted, yet can be cleaned or removed after the correction is made. Masking or painter's tape has been found to be useful for such marking. In addition to marking the item on the roof, a written list is developed and each item is crossed off as it is corrected.

##### 17.4.3 Touch-up Paint (After Installation)

Details of touch-up painting are found in Section 17.3.5. If done properly, this "final" touch-up should be minimal. As final clean-up takes place, and material, equipment, and protective coverings removed, there may be areas requiring touch-up. This final touch-up should be performed using the proper material, following all instructions as given with the touch-up material.

Any touch-up should be documented, as previously done using the daily checklist.



