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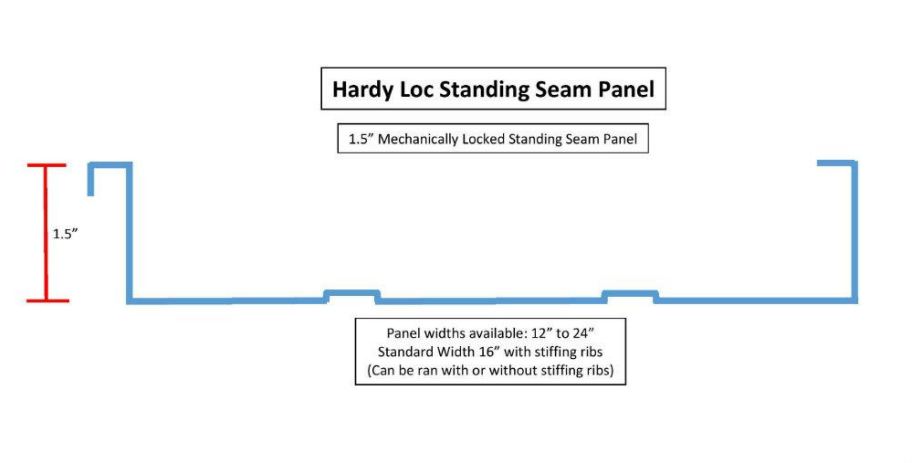
HardyLoc Standing Seam

Installation Guide



Important Notice

This install guide contains suggestions and guidelines on how to install HardyLoc Standing Seam panels. The photos in this guide are for illustration purposes only and may not apply to all building designs or product applications. The installation details provided are proven methods of construction, but are not intended to cover all instances, building requirements, designs, or codes. It is the responsibility of the purchaser/installer to ensure that the items being purchased meet building requirements. Consult your local building department to determine the local building codes. It is the buyer's responsibility to verify all applicable code requirements and determine suitability of product for the job. The purchaser is also responsible for determining lengths and quantities needed to complete the project. Prior to ordering and installing materials, all dimensions should be verified with field measurements. Mid Michigan Metal Sales does not guarantee an estimate to complete the project. Estimates/quotes should be considered an estimated list of materials only. We are not responsible for overages or shortages to complete projects. Also remember there are no returns or exchanges on roofing or siding panels or standing seam trims. Oil canning and telegraphing is common for metal roofing/siding systems and is not a cause for rejection. Mid Michigan Metal Sales reserves the right to modify, without notice, information in this guide.

Safety Notice

It is the installer's responsibility to take safety precaution while working with metal panels. We suggest using gloves to prevent cuts while handling. Safety glasses should be worn when drilling or cutting metal panels. Use caution when walking on metal panels as they will become slippery. Additionally OSHA regulations should be followed at all times.

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Introduction

The HardyLoc standing seam panel is a concealed fastener panel, meaning you won't have to worry about leaking fasteners in the decades to come. This roof should last well over 100 years with little to no maintenance when installed properly. The HardyLoc panel is perfect for commercial and industrial installations, with a 1-1/2" tall rib and standard 16" width. This panel can be installed on roofs with a pitch of 1/2:12 or above when a single seamer is used or as low as a 0:12 when a double seamer is used.

Specifications

Color, Gauges, and Paint Finishes

The HardyLoc is made standard with 26 gauge steel* painted with an SMP paint system that carries a Lifetime Paint and Steel warranty. For an additional charge you can upgrade to a 24 or 22 gauge steel or .040 Aluminum with a Kynar paint finish. **It is highly suggested to use 24 gauge for this panel.**

*Panel lengths over 25' are only available in 24 gauge or thicker steel.

Rib Height

The HardyLoc has a rib height of 1-1/2" making it a great choice for commercials and insustrial installations.

Panel Widths

The HardyLoc panel has a standard width of 16", but can be made up to 24" wide and as small as 12" wide. This panel can be made with or without ruler ribs. The panel is made standard with ruler ribs to reduce oil canning and telegraphing.

Panel Lengths

The HardyLoc can be made in lengths from 1' to 50' in 1" increments.

Packaging

The panels are packaged with standard packaging made to keep panels secure after manufacturing. We do not guarantee the standard packaging to hold up during transport due to road conditions being unpredictable. We do take time to ensure a good crate has been assembled but additional packaging may be required prior to transport.

Calculating Panel Length

One of the most important parts about ordering your material is determining the correct panel length. We cut panels to the inch between 1’ and 50’. So determining the correct size is crucial. All measurements should be field measured and not taken from plans or guessed. To determine panel lengths you will want to measure from the existing drip edge to the center of the ridge cap. When measuring you will want to account for the overhang of at least 1” at the drip edge if you are going to be screwing the panels down at the drip edge opposed to hemming them. If you will be hemming your panels over the drip edge you will want to be sure to add 2” to the panel length. It is always better to order panels a little longer than needed. Due to standing seam being hemmed or overhung at the drip edge and folded up at the ridge cap you will be cutting both ends already, so adding an inch or two will prevent panels from being useless.

***Note:** All trims and flashings are made 10’2”. When calculating trims it is important to calculate how many pieces for each section, opposed to adding them all up and dividing by 10. If you add them all up and divide by 10 you may have areas where you will have to use small pieces to finish the run.

Ventilation

Proper installation of ventilation systems are important to prevent condensation and mold growth in attics. Condensation occurs when moisture-laden air comes in contact with a surface temperature equal to or below the dew point of the air. This phenomenon creates problems that are common to all types of construction and materials. If there is not enough air ventilation your attic will not be able to breathe or let hot moist air out, causing condensation to form and in a worst case scenario mold will begin to develop. Utilizing a ridge vent system along the entire ridge of the roof will give adequate air circulation to help prevent condensation.

Panel Installation

Preparing the roof

- Remove all existing drip/eve edge on structure.
- For best results HardyLoc should be installed on a solid surface. If furring strips are used, use caution to ensure the panel is fully locked down before moving on.
- Be sure to check for rotted boards or nail heads that have pushed up before installation, if you discover rotted wood it will need to be replaced before installing panels.
- If your roof does not have adequate ventilation cut at the ridge of the roof, just before you install the synthetic felt would be the best time to cut in your ventilation. You should cut out 2" on either side of the ridge for the entire length of the ridge.
- If you will be installing HardyLoc over existing shingles you will need to make sure there is a permanent vapor barrier between the new HardyLoc and old asphalt shingles. This can be achieved with synthetic underlayment or furring strips. (Asphalt felt paper should not be used under any metal roofing.) You will need to install new Drip/Eve edge before installing the synthetic felt.

Field Cutting and Hemming

Field cuts should be made with a good pair of tin snips or for long straight cuts a shear attachment for power drills also works well.

DO NOT USE A CIRCULAR or ABRASIVE SAW, that will void you paint warranty.

> The problem is that the heat produced has a negative effect on the paint and substrate adhesion, causing it to prematurely corrode. The other problem is that the metal slivers produced can become embedded into the panel surface.

You can use a special metal cutting blade made by Malco Products that does not produce heat when cutting metal painted panels. (See Below Picture)

When cutting metal panels eye protection should always be worn.

Hemming Panels

For hemming and folding up the panels, we have available for purchase in store sheet metal folding tools that will make a nice clean straight fold with little effort. (See below)

Installing the Drip Edge/Eve Edge

1. If not already completed start by removing the existing drip edge from the structure.
2. Install the new drip edge on the eve edges only. Use pancake screws or roofing nails to attach the new drip edge to the furring strips or wood decking. Fasteners should be spaced every 16”-24”. Overlap the drip edges ½” to 1” where they meet.

Installing Synthetic Underlayment

1. Start at the bottom of the roof and attach the synthetic felt parallel with the drip edge. Use roofing nails or staples to attach the felt. Using Cap nails or cap staples will keep the felt in place, if during installation you experience wind.
2. Once your first row is on overlap to the line on the pervious row of synthetic felt. Attach with roofing nails or staples.
3. Repeat step 2 until you get to the top (ridge) of the roof.
4. If your roof does not have ventilation cut in at the ridge of the roof, now would be the time to cut in your ventilation. You should cut out 2” on either side of the ridge for the entire length of the ridge.
5. Your last row of synthetic felt at the ridge of the roof should be overlapped to the other side so that water will not enter the structure during installation.

NOTE: Be sure to cut out the synthetic felt covering the ventilation hole before installing your ridge cap.

Installing Valley and Valley Cleats

1. You will be starting at the bottom eve edge of the valley and working up to the ridge.
2. Take your first piece of valley and overhang the eve edge so that the entire width of the valley is over the eve edge.
3. Now be sure the valley trim is laying in the middle of the valley.
4. Mark on the backside of valley where the drip/eve edge meets the beginning of the valley. Remove the valley for cutting
5. It is suggested that you hem the valley over the drip/eve edge to create a tight seal. If you are going to hem over the drip edge add one inch to the mark that was made earlier and cut the valley at the new mark. Hem the valley over and leave an opened hem. If you are not going to be hemming the valley cut the trim piece where you marked the meeting point of the drip edge and valley piece.
6. Place the valley trim back into the valley of the roof and line the piece up at the bottom. (You may also want to put a bead of caulk where the valley and drip edge meet.) If you hemmed the valley trim, use a hand seamer to close the hem.
7. Fasten the valley trim using pancake screws or roofing nails every 16-24 inches.
8. If more valley trim is needed continue with the rest of the steps. If not skip to step 12.
9. Take your next piece of valley and center it with the piece you just installed and then center it again farther up the valley of the roof.
10. Where the two valley trims meet place a bead of caulk between them and overlap 3-6 inches.
11. Fasten the valley trim using pancake screws or roofing nails every 16-24 inches.
12. Once you have reached the top of the valley overlap the valley trim from both sides of the ridge and secure with pancake screws or roofing nails. Be sure to use caulk to seal from leaks.

Installing Cleats

If you plan on hemming your panels you will need to install cleats. If not skip to the next section.

1. First mark 3-4 inches from the middle of the valley pan out ward starting at the eve edge and following up to the ridge.
2. Take a chalk line and snap the chalk line where you placed your two marks.
3. Now take your cleats and place a bead of caulk or use butyl tape on the bottom side of the cleat. Line up the cleat with the chalked line in the valley.
4. Fasten the cleats every 16-24 inches with pancake screws.
5. Do not overlap the cleats. That will create a hump in the valley.
6. If you completed it correctly you will have a space between the valley pan and the cleat to hook your panel into.

Installing the Ridge Cap

You will need to install the ridge cap before installing any panels on the roof.

1. First take a piece of ridge cap and flip it over so you see the white primed side of the piece.
2. Now take two J-Channels and place the 2” top side of the J-Channel into the open hemmed edge of the ridge cap, starting 1-2 inches from the edge.
3. Using hand seamers to close the open hem and then install rivets every 24”. Make sure the rivets go through the J-channel and the ridge cap.
4. Repeat steps 1-3 until all ridge caps needed are completed.
5. Starting at one end of the structure take one of the ridge caps up onto the roof and center it on the ridge. For your first piece of ridge you may want to fold the end laps down so it gives you a clean look at the gable/rake end. Secure the ridge cap to the roof using pancake screws or roofing nails spaced 16”-24” apart.
6. Take your next piece of ridge cap and continue to work across the ridge to the other gable/rake end. At every spot that two ridge caps overlap you will need to put a bead of caulk to seal the seams from leaking.
7. Once you have reached the other end of the roof, take your last piece of ridge cap and cut it to the length that is needed. Be sure to include over hang if you are going to finish the end like you did on the first piece of ridge cap.

Installing End/Head Wall Flashing

If your project does not need End/Head Wall Flashing please continue to next section.

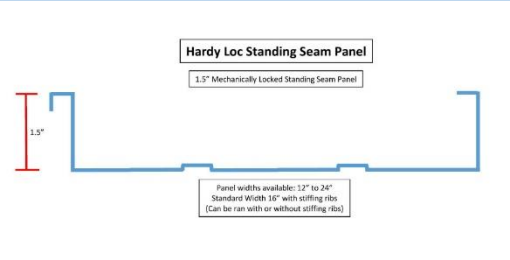
End/Head Wall flashing should be installed behind the siding for best performance.

End/Head Wall is for walls running Horizontal to the roof.

1. Take a piece of End Wall Flashing and a piece of solid J-Channel and place the 2” top side of the J-channel into the opened hem of the flashing. Close the hem using a hand seamer and rivet the pieces together every 24”.
2. Start at one end of the structure and place the end wall flashing tight to the wall.
3. Secure the flashing with pancake screws or roofing nails. Spaced every 16-24 inches apart.
4. If more than one piece is needed to complete an area be sure to seal the joints with caulk.

Installing the Panels

Before moving onto hemming the panels you will first need to determine what side of the panel will be at the ridge and what side will be at the drip edge. Common practice is to have the seams facing away from the driveway or most viewed point of the roof. In other words you will start laying panels farthest from the driveway. The female side of the panel will be at the gable/rake edge of the roof. (In the picture below the female side is on the left.)



If you are going to be using exposed fasteners at the eve and valleys you can skip to step 4.

Hemming the panels

1. Start by hemming the bottom of the panel.
2. With a pencil mark ¾" up the panel on both sides. Remove the entire male side of the panel. Remove only the outside edge of the female side and cut a slit on the inside of female side. Then fold over the remaining piece and cut flush on angle.
3. With your hemming tool hem the panel around as far as you can creating an open hem. (As pictured below.)

4. Now verify the exact length of panel needed from drip edge to at least 1-1/2" inside of the J-Channel.
5. With that measurement mark the top of the panel (closest to the ridge) and add 1".
6. At the 1" mark cut the panel straight across removing any excess length.
7. From the cut edge mark the panel 1" down on both the male and female side.
8. Cut the male side completely off. The female side remove the outside of the rib and cut a slit on the inside. Similar to step 2.
9. Using a hemming tool fold the lip up. Then fold the female leg over to create a gate. (as shown below)

Your panel is now ready to be installed.

Installing the First Panel

1. Start with the female side closest to the gable/rake edge. Making sure you are not overhanging the gable/rake and you are only about ¼" or less from the edge of the roof.
2. Slide the panel up until the open hem is tight to the drip edge. Or if you are using exposed fasteners leave a 1" overhang past the drip/eve edge.
3. Fasten the panel using the provided clips & pancake screws every 24"-30".
4. Be sure to make a cut on every panel above at least one clip to ensure the panel does not slide down overtime.

5. With hand seamers or a drip edge seamer (drip edge seamer is available for rent or purchase at MMMS) close the hem completely at the drip edge.

Continuing panel installation

1. Once the first panel is installed the rest of the panels will follow the steps outlined in **Hemming the Panels.**
2. Once the panel has been hemmed and folded at the top, line up the panel being installed female's side with the previously installed panel's male side.
3. Push down on the panel at the ridge cap and drip edge to lock the ends down.
4. Then slide the panel up so that the open hem can hook onto the drip edge.
5. Once the panel's open hem is tight to the drip edge, continue to lock the rest of the panel in place following the seam.
6. With the panel fully locked in place check to make sure the panel has not slide down the roof and is still tight to the drip edge.
7. Fasten the panel using pancake screws and the provided clips every 24"-30".
8. Be sure to make a cut on every panel above at least one clip to ensure the panel does not slide down overtime.

9. With hand seamers or a drip edge seamer (drip edge seamer is available for rent or purchase at MMMS) close the hem completely at the drip edge.
10. Now with a mechanical seaming tool (available for rent or purchase at MMMS.) close the seam on the panel to create a tight seal.

Repeat steps 1-10 for remaining roof panels.

11. Once you have reached the other gable/rake edge cut the width of the panel to the required length, making sure to not overhand the gable/rake edge and no farther than a ¼" from the edge.

Gable/Rake Trim Installation

1. Take a Z-Bar and a Gable trim and determine where to place the Z-Bar on the panel. You want the Gable trim to be tight to the fascia.
2. Once you get the location of the Z-bar mark the panel with a pencil.
3. Fasten the Z-Bar to the roof at the pencil line drawn the step earlier. Fasten using pancake screws every 12"-16". (To ensure a good seal you can also apply butyl tape or caulk to the Z-Bar before installing.)
4. Take the gable trim and close the open hem onto the Z-Bar and rivet the two together. Space rivets every 12"-16".
5. Seams where two gable trims meet need to be sealed with caulk.

Side Wall Flashing

Side Wall Flashing should be installed behind the siding for best results.

If you do not have a wall that runs (parallel) with your panels you can skip this section.

1. Take a Z-Bar and a Side wall trim and determine where to place the Z-Bar on the panel. You want the Side wall trim to be tight to the wall.
2. Once you get the location of the Z-bar mark the panel with a pencil.
3. Fasten the Z-Bar to the roof at the pencil line drawn the step earlier. Fasten using pancake screws every 12"-16". To ensure a good seal you will also need to apply butyl tape or caulk to the Z-Bar before installing.
4. Take the side wall and close the open hem onto the Z-Bar and rivet the two together. Space rivets every 12"-16".

5. Use pancake screws to attach the side wall to the wall. (If leaving the sidewall exposed to the weather use EPDM Rubber washer screws to fasten the side wall flashing to the wall, and apply sealant to the joint.
6. Seams where two side walls meet need to be sealed with caulk.

Transition/Pitch Break

If your roof does not require the following you may skip this section.

Inside transition

If your roof has an inside transition you will need to install the lower panels first before completing the inside transition.

1. Once you have your lower panels installed take the Z-Bar and notch out where all the panel's ribs will hit the Z-Bar.
2. Take your transition trim and determine where the true pitch change occurs and mark where the Z-bar needs to be fastened on the panel.
3. Apply caulk to the bottom of the Z-Bar and fasten to the panels using pancake screws.
4. Once fastened to the roof go back over it with caulk behind the Z-bar and fill any gaps that are next to the ribs.
5. Take your transition piece and close the hem and rivet the two piece together. Space the rivets every 16"-24"
6. Secure the top of the transition to the other level of the roof using pancake screws.
7. Now fasten an offset cleat (same as a valley cleat) about 2-3 inches from the bend in the transition. Apply butyl tape or caulk to the bottom side of the cleat. Fasten with pancake screws every 16"-24". This is where your upper panels will hook onto.
8. If there is multiple transition pieces be sure to caulk every seam where two meet.

Offset cleat is optional. It is sold separately and may not be on a quote unless asked for.

Outside Transition

This will need to be installed before you install any panels on the roof.

1. Take a piece of solid J-Channel and attach the transition at the open hem. Use rivets and a hand seamer to complete this. Space rivets every 16-24."
2. Fasten the J-Channel of the transition using pancake screws every 12-24."
3. Secure the top of the transition to the other level of the roof using pancake screws.
4. Now fasten an offset cleat (same as a valley cleat) or receiver-cleat at the bend in the transition. Apply butyl tape or caulk to the bottom side of the cleat. Fasten with pancake screws every 16"-24". This is where your upper panels will hook onto.
5. If there is multiple transition pieces be sure to caulk every seam where two meet.

You can also use drip edge where the offset cleat or receiver cleat is placed.
Offset cleat, receiver cleat, and drip edge are optional. They are sold separately and may not be on a quote unless asked for.

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