Optima Installation Procedure

Overview

For the gutter protection to work correctly, there are many factors and techniques to consider when installing Optima products. With Optima Gutter Protection, the slope or angle of the gutter guard is important (which will vary depending on the roof material and the slope or angle of the roof). The better the installer gets the installation factors correct (the ideal target angle), the better the performance of the Optima Gutter Protection. Sometimes it is not possible to get all of the factors correct, so getting close enough to the ideal target angle is the next best option.

Safety

Always make your Safety the top priority. Use ladders, tools, and equipment correctly.

Tools

1. Rechargeable Drill
2. ¼" hex driver (both short & long shaft)
3. Metal cutting snips (Tinner & Aviation types)
4. Silicone Caulking, Clear, 100% (GE brand, 4 oz tube)
5. Ladders, optional LadderMax standoff (recommended)

Optional Tools: Work bar, 2" putty knife, work gloves, 2" paintbrush, gutter scoop, Portable Bandsaw with metal cutting bandsaw blade, tool belt

Products

Optima Gutter Protection products
Screws, ¼" hex head self-tapping galvanized (3/4" long)
Optional Products: endcaps, outside miter cover, inside miter diverter, inside miter kit, Optional GG cleaning brush

Prepare Work Area

Clean out gutters, repair gutters if needed, seal gutter seams if required, and clean out downspouts. Recommend using Geocel 2320 or SeamerMate 85148 for sealing gutters. Always use a cleaner like Windex or 409 spray and let dry before applying a sealing chalk. (Go to YouTube to watch the "How to Reseal a Leaking Gutter" video).

Installation differences between "Under the Shingle" or "Rear Fascia" Methods

There are two install methods to put Optima Gutter Protection on gutters.

1. The Under the Shingle method is where the rear wing of the Optima gutter guard slides under the roof shingle and on top of the moisture barrier (or tar paper). The roof deck supports the rear of the gutter guard, and the gutter guard is attached to the front lip of the gutter with a screw. Typically the angle of the gutter guard is sufficient to allow debris to "naturally self-clean" when using this method, but there are techniques to adjust the gutter guard angle to the "best" angle. Most installations are performed this way, and this method is approved by the major roofing manufacturers as long as no screws or nails go through the roof

2. The Rear Fascia method is where the back wing of the guard attaches to the rear of the gutter or the fascia board with a screw without going under the roof shingle. This may be necessary if the roof shingle is sealed, the gutter is sloped, or the shingle cannot be lifted (as in the case of metal roof systems, heavy tile systems, areas of very high winds, or sloped gutters with long runs). Then the front of the guard is attached with a screw to the gutter's front lip.

Basic Installation Guidelines

- Determine the ideal target angle or best angle to use for the product, and install as close as possible to this target angle.
- It is not recommended to install gutter guards flat, as debris will not be able to be pushed off by the rainfall. There are several "advanced techniques" to resolve this. Contact your Optima rep for tips.
- It is recommended to install all inside corners first (with diverters), then all outside corners (with seam cover), and then fill in the straight sections between those corners.

Performance Factors and Determining the Ideal Target Ange to use for your specific roof and gutter conditions:

There are 4 factors/criteria for a gutter guard to have top performance. ANGLE (or slope) of both the guard and the roof, Roof Shingle MATERIAL (metal, tile, asphalt, wood, etc.), the RUN (length from the gutter to ridge top), and FLOW (amount) of water (rainfall), (see appendix 3 for details). Install as close to the "ideal target angle" as possible. The Optima recommended install angle (the ideal target angle) will ensure the best performance under high-flow water conditions. If "Ideal/best" or "better" angles are not possible, install as close as possible to these angles. If the ideal install angle is not achieved, it only means that some water may go over the guard in high water flow conditions, but most of the water will still go through the guard as designed.

Recommended installation angles for Optima Products

			Optima target angle (degrees)		
Roof	**Angle**	**Slope (rise/run)**	**best**	**better**	**good**
Flat Roof	0	0/12	8	4	4
Low pitch	4	1/12	8	4	4
Low pitch	8	2/12	8	4	4
Standard pitch	11	3/12	11	8	8
Standard pitch	15	4/12	11	8	15
Standard pitch	19	5/12	15	11	19
Standard pitch	22	6/12	15	11	19
Heavy pitch	26	7/12	19	15	11
Heavy pitch	30	8/12	19	15	22
Heavy pitch	34	9/12	19	15	22
High pitch	38	10/12	22	19	26
High pitch	41	11/12	22	19	26
High pitch	45	12/12	22	19	26
Very High		>12/12	26	30	22

Example: A standard pitch roof of 6/12 pitch is at a roof angle of 22 degrees. The target angle for Optima is 15 degrees, but the range for Optima could be from 19 to 11 degrees.

Setting the installation angle of Optima gutter guards

Refer to the Optima Recommended Install angles chart above.

Using the Under the Shingle method:

If the angle of the guard is too high, then cutting the back wing horizontally will reduce the install angle (cutting ¼" off at a time on a test piece of the guard and reinstalling until the correct desired angle is achieved.

If the angle of the guard is too low, either install the larger wing version of Optima, install a wing extension on the Optima gutter guard, or attach a small ¼" to ½" wood strip to the rear of the Optima gutter guard to lift upward. In rare situations, the gutter may need to be raised or lowered, but only as a last resort.

Using the Rear Fascia Install method:

It is recommended to attach the rear wing to the fascia before attaching the front lip screw. This allows some adjustment of the guard to reach the desired angle before securing the front lip screw. The Rear Fascia Install method allows for adjusting the rear wing up or down to allow for the correct guard angle. In some cases, the wing may be too long and will need adjusting. If the angle of the guard is too high, lower the rear wing and attach, or if lowering the wing is not possible, cut the back wing horizontally on a test piece of the guard to determine the correct amount to cut to achieve the desired install angle. Install a "resting" screw on the fascia every 18" to "rest" the back wing on to secure the back wing from falling into the gutter. Also, install a "locking" screw on the fascia every 24" to "lock" the Optima rear

wing into place. Run a small bead of silicone sealant between the gap of the guard wing and the fascia after the guard is secure to prevent small debris from wedging in.

How to cut Optima Straight cut, Inside cut, Outside cut

Straight cut: Using tin snips

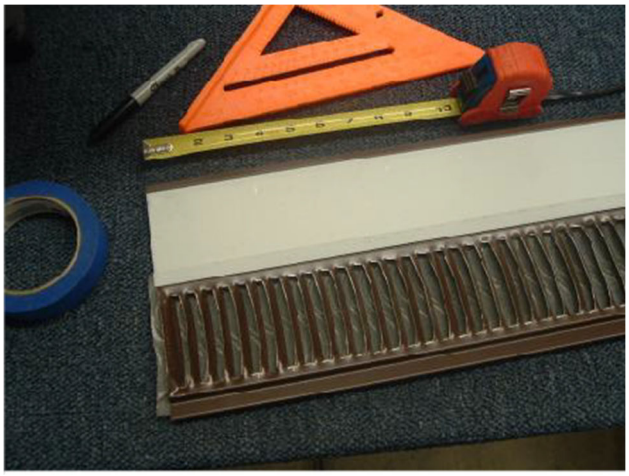
1. Draw an angled line on the Optima gutter guard to cut.
2. Cut front lip.
3. Cut back wing.
4. Turn Optima product over and cut both louver channels
5. Cut screen to finish.

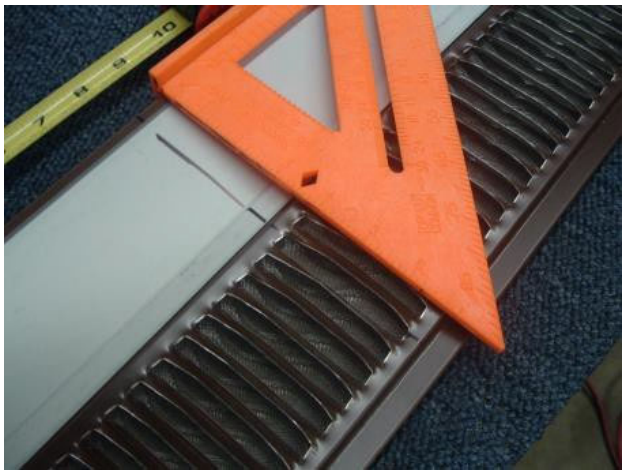
Inside corner cut: Using tin snips

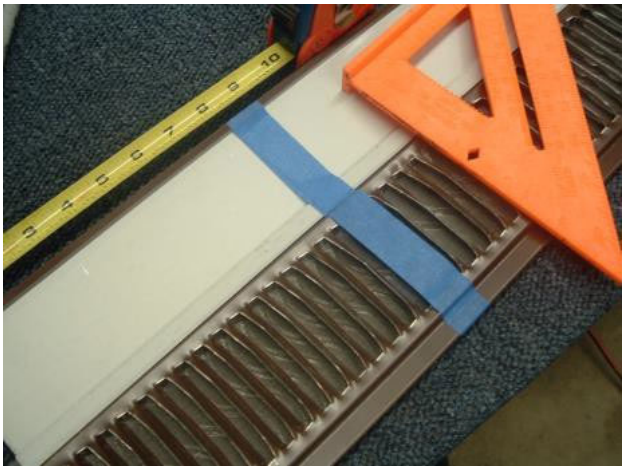
1. Draw an angled line on the Optima gutter guard to cut.
2. Cut front lip at an angle.
3. Cut back wing at an angle.
4. Turn Optima product over and cut both louver channels.
5. Cut each louver separately at the angle line.
6. Cut screen to finish. Note: the steeper the install angle of Optima, the slightly less of an angle is cut or inside miters (see appendix 4)

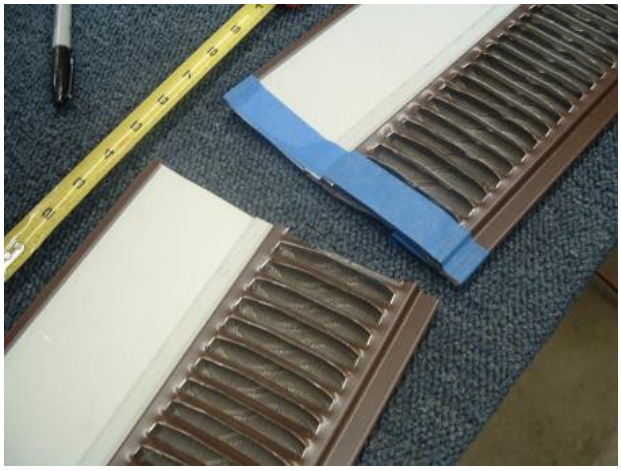
Outside corner cut: Using tin snips.

1. Draw an angled line on the Optima gutter guard to cut.
2. Cut front lip at an angle.
3. Cut back wing at an angle.
4. Turn Optima product over and cut both louver channels.
5. Cut each louver separately at the angle line.
6. Cut screen to finish. Note: the steeper the install angle of Optima, the slightly less of an angle is cut for outside miters (see appendix 4)









Straight run installs under the shingle method:

1. Using the wing of the Optima product or a 2" putty knife, slide under the first roof shingle but on top of the tar paper or moisture barrier (see appendix 5 for details). Take care not to tear the moisture barrier
2. Install Optima rear wing under the shingle and align the edge of Optima to its location
3. Pull the Optima gutter guard forward, allowing the front lip of the guard to meet up with the front lip of the gutter.
4. Install front screws (3 per complete section).
5. Install a small silicone bead to seal the end mesh. Option: On Composition Asphalt Shingles, the Optima gutter guard can be installed either between the starter shingle and the moisture barrier or between the first shingle and the starter shingle, whichever results in the guard's install "best" angle.

Straight run installs Rear Fascia method

1. Fit Optima on the gutter and determine the best angle for the guard.
2. Ensure the correct fit for the guard, as some placement adjustments may be necessary.
3. Adjust guard back wing higher than the front lip (if possible) to ensure correct guard angle.
4. Align the side edge and attach with screw the rear of the guard to the fascia or gutter.
5. Install front screws.
6. Install a small silicone bead to seal the side edge mesh. Repeat to cover the gutter.

End cap installation

There are several ways to end caps.

1. Cut 2" of the metal frame away and leave the mesh. Fold the mesh downward to be flush with the endcap.
2. Or, cut a metal sheet metal (painted) to fit, making a 0.5" 90-degree angle cover to silicone or screw on the top of the guard while about 1" to 2" of metal is downward in the gutter flush with the gutter endcap.
3. Or, fold up the endcap top ridge, install the gutter guard, and seal the gap with silicone.

Note: The best result for endcap installs is not to have a gap to allow bees or wasps to enter.

Outside corner (miter) install

1. Most Outside corners on gutters are at a 45-degree angle (pre-cutting is recommended).
2. Determine the correct cut angles and draw those angle lines on the product.
3. Cut the guard to the correct angle (note that when flat, a 45 degree is used, but as the slope increases, the cut angle on the gutter guard INCREASES. Example: on a 4/12 pitch roof, cut 48-degree angles. This allows the gutter guard wing to move farther apart, keeping a good seal while the roof angle increases. Seal the gap with silicone or use a sheet metal cover over the gap, and glue the cover in place with silicone.

Inside corner (miter) install

1. Most Inside corners on gutters are at a 45-degree angle (pre-cutting is recommended).
2. Determine the correct cut angles and draw those angle lines on the product.
3. Cut the guard to the correct angle (note that when flat, a 45 degree is used, but as the slope increases, the cut angle on the gutter guard DECREASES. Example: on a 4/12 pitch roof, cut 43-

degree angles. This allows the gutter guard to move closer together, keeping a good seal while the roof angle increases. Seal the gap with silicone, place 2 small silicone V-diverter bumps on the screen, and place one or more metal roof diverters in the roof valley.

Inside corner roof diverter install

The use of a water diverter in a valley location slows the water and fans the water across the gutter guard, allowing more time for water to enter the screen. While each roof, slope, and valley are different, generally speaking, use two 3" V-diverters on a valley. Make the V-roof diverter from sheet metal (painted) by cutting a 6" x 1.5" rectangle, bend up the long side by 0.5" leaving a 1" at a 90-degree angle, then cut a V in the center of the 0.5" sides, bend together to form a V. Then glue the diverter on the roof with silicone approx. 6" above the gutter guard and then another approx. 18" up on the valley.

High Flow Water Kit

Use the Optima High Flow Water Kit for inside miters on valleys, high water flow roof areas, and for highly pitched roofs (> 9/12 pitch).

For different roof pitch installs, pre-cut templates that allow exact cutting of angles. For example, a 1/12 pitch roof needs a 45-degree inside cut for a 45-degree inside corner, but a 5/12 pitch roof needs a 43-degree inside cut for a 45-degree inside corner due to the rise in angle of the rear portion of the gutter guard.

On-Line Installation Assistance

There are several installation videos posted on www.OptimaGutterProtection.com to assist in this procedure.

If you need further assistance, email us at info@OptimaGutterProtection.com and provide your name, business name, phone number, and a brief description of the issue. We will get our Optima Install Technician to call you.