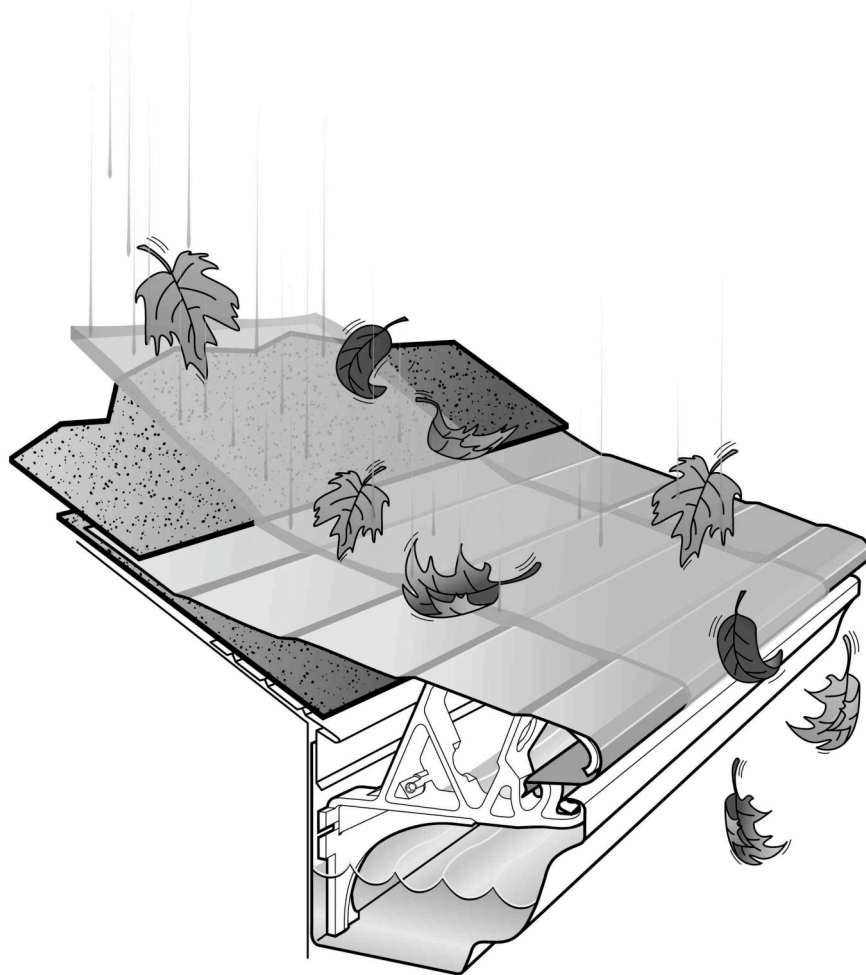# General Installation Guidelines

Please read these instructions in their entirety before beginning work. If you have questions after reading these instructions, please call 1-888-784-0878 for help.

Every home is unique. Inspect the jobsite and plan for every installation in advance. Be sure that all parts & accessories needed for installation are on hand before you begin. Some in-field modifications to the TruGuard Gutter Protection system may be required that are not covered by these instructions. If you are unsure how to proceed, STOP. Contact the Distributor for instructions.

Check the overall condition of the gutters, drip edge, shingles, soffit, fascia and roof decking. Any defect or deficiency should be corrected and/or discussed with the homeowner.

 NOTE: Quality Edge assumes no liability for installation. Quality Edge warrants that TruGuard Gutter Protection Products will be free from manufacturing defects only. All claims for performance failure or installation defects are the sole responsibility of the installer.

Table of Contents

Installation Materials
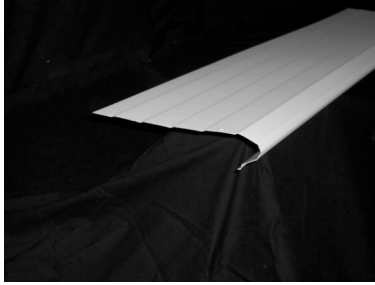
13.5 Gutter Protection Panel

Universal End cap

Ported Panel

Valley Port

Smart Clip with Screw

½" Zip Screw

Safety Warnings:

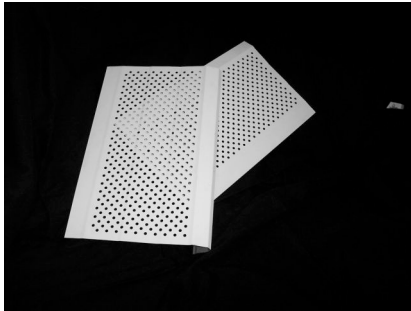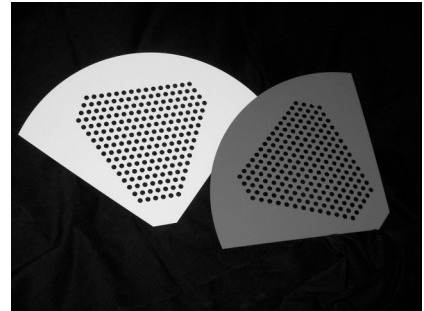Use gloves, protective eyewear, and proper footwear.

Do not climb on the roof. Always work from a ladder, using extreme caution. • Read and follow the ladder manufacturer's instructions and warnings.

Make sure the ladder is level and footing is stable.

Move ladder frequently. Do not lean out from ladders. Keep belt buckle inside ladder rails. • If on-roof access is required, use proper OSHA-approved 'fall -protection' equipment.

Always maintain a safe distance from power lines or other electrical wiring.

Avoid contact with overhangs and projections that could cause a fall.

Avoid touching the edges of gutter protection panels. Sheet metal edges are razor sharp.

Read and follow the manufacturer's instructions and warnings when using power tools.

Every installation of this product is different and may contain certain unique hazards. It is your responsibility to be careful and to work safely.
Quality Edge cannot guarantee your safety while installing TruGuard gutter protection systems.

Tools You Will Need:

Gloves and protective eyewear

Cordless drill / screwdriver with a ¼ driver bit (using a 6" long driver bit with a magnetic tip to hold the zip screw works well)

Appropriate length fiberglass or other nonconductive stepladder or extension ladder with standoffs

Tin snips or metal shears

Wide, bent blade scraper or large putty knife for loosening shingles (*Over the years we have seen the wonder bar work well, others favor the 4" putty knife, old plastering tools, cement trowels, even the large grill spatulas. Its nice to have a good assortment to work the shingles loose*.)

Tape measure

Pencil

A Siding brake (any length will work but 5'6" one is the most convenient lengths to use with stands, a table or the tail gate of a truck)

Before You Start:

Do not attempt to install this product if it is difficult for you to climb a ladder or work overhead.

Do not lean ladders against the gutter. Use a stepladder or a standoff ladder attachment. Panels cannot be installed correctly if the ladder is leaning against the gutter.

Do not install over vinyl or plastic gutters. This gutter protection is designed for use with metal gutters.

Do not install on bent or damaged gutters. Gutters must be straightened, realigned or replaced before installation to create the continuous 3/8" water gap required for optimal performance.

For installation on low-pitched, shake, slate, metal or specialty roofs, we recommend a fascia mount installation. (see Fascia Mount Instructions elsewhere in these pages.)

Run off during the first few weeks is normal. There are natural oils from the paint and from human contact that will wear off with time.

Cautions!

⏱ This product is designed to be a closed system. The only opening should be a continuous 3/8" water gap between the gutter lip and the lower panel. Inspect and enclose all other openings, especially behind the gutters and end caps.

⏱ Installed panels must maintain a continuous downward slope from the upstream roof edge to the nose. A negative or backward slope, caused by the nose being higher than the rear or upstream edge, will cause pooling and can damage the roof. As a rule the rear, or upstream edge, of an installed panel must be 1" – 1 ¼" higher than the front edge.

⏱ For best performance, the position of the outward-most point (nose) of each installed panel is critical and should extend past the front edge of the gutter by approximately ¼". Use of the patented Smart Clip makes this effortless (see Figure 1 below).
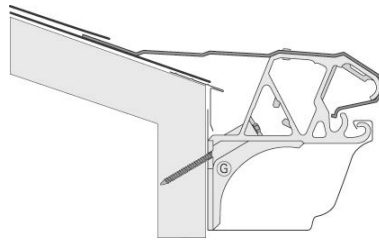

Figure 1

Preparation:

❑ For safety, we recommend working only from a ladder. Always use extreme caution. Make sure ladder is level and footing is stable. Do not climb onto the roof.

❑ Remove any screens and attachments to the gutter, such as a splashguard, that may prevent the installation of a gutter protection system (see Figure 2 below).

❑ Check the overall condition of the gutters and repair as needed. Reattach loose areas; reseal all seams, secure and re-pitch gutters as necessary.

❑ Clean the gutters and make sure downspouts are clean and free of debris.

❑ This product must be installed under the second course of shingles. Check the condition of the shingles by lifting the second full row of shingles and loosen the glue bond with a putty knife or scraper.

❑ Panels can be installed on most roofs with a 4/12 to 5/12 pitch without alteration. For roof pitches below 4/12, check to see if the installed system maintains a continuous downward slope from the upstream roof edge to the nose. A negative or backward slope caused by the front nose being higher than the rear or upstream edge will cause pooling and can damage the roof. If a backward slope occurs, lower the gutters to create a positive pitch or fascia mount the panels (see Fascia Mount Instructions elsewhere in these pages). For roofs with a pitch greater than 5/12, the panel must be modified. The panel must continue at the same angle as the top of the bracket (Smart Clip) until it meets the shingle at which point the panel should have a break matching the pitch of the roof. As the roof pitch increases, the break will move forward towards the nose (see Figure 1 above).
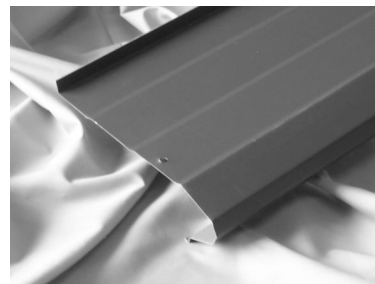

Figure 2

Figure 3

General Instructions

These instructions provide basic information for installing a professional gutter protection system on most homes. Be aware that every home is unique, and that many homes will require field modification not covered by these instructions for a proper, custom fit. The guidelines below must be followed for all installations.

1. Start installation at the end of a gutter run by installing a Smart Clip at the end of the gutter, about three inches from the gutter end cap. (Note: Gutters on 'hip'-style roofs wrap around 4 corners in a continuous run. On 'hip' roofs, begin bracket installation about one-foot from a corner). Smart Clips have a small bottom hook designed to hook the lip of the gutter. Hold the Smart Clip so the top of the clip is facing you and slide the bottom hook under the front lip of the gutter then pull up to make sure the bottom hook is grabbing the front lip of the gutter. Now turn the Smart Clip to the side and set it in place inside the gutter, making sure it is resting on the bottom of the gutter. Screw in the preset 3'' screw with your ¼" driver bit and tighten it snug to the back of the gutter (see Figure 4 below).

Figure 4a   Figure 4b   Figure 4c

Figure 4d   Figure 4e

Note: Gutter end caps have been removed in pictures to show more detail.

2. The panel must start at the beginning of the shingle at the roof edge. If the gutter comes short of the roof edge start the panel so there is about a ¼" gap between the panel and the gutter end cap.

3. Lay the panel where it should start and mark the spot at the end of the panel where the next panel will overlap. This is where you will need to place another Smart Clip. There should always be three Smart Clips touching each full panel, so you will have to add one clip between the starting clip and the 'overlap' clip, where you made your mark. This should be placed roughly in the middle of the panel. Screw all the Smart Clips in.

4. Now take the panel and slide it under the 2nd course of shingles, which you have already loosened, and clip the panel into place. Make sure the bottom lip of the panel is secured into the rear hook of the Smart Clip, which will maintain a uniform, preset gap for water entry. See Figure 5 below.
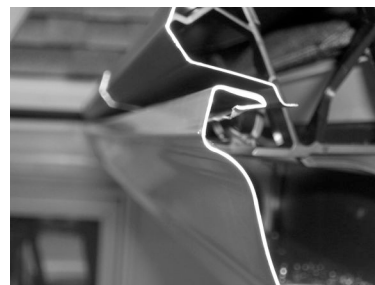
Figure 5a   Figure 5b

5. Fasten with a color matched ½" zip screw. The screw placement should be toward the front of the panel so the zip screw will bite into the thick upper layer of the Smart Clip (see Figure 6 below).
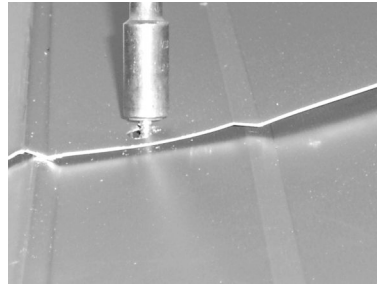

Figure 6

6. Repeat this process until you come to the end of the gutter run.

    As the installation approaches the end of a gutter run, there will probably be an odd length (less than five feet) to cover. There are two installation options:
    a. Cut the panel to fit about 1\8" short of the gutter end cap and install an end cap.
    b. If at an outside corner, cut the panel to wrap around the corner and proceed (see Outside Corner instructions elsewhere in these instructions).

7. Install End Caps. The end caps must completely enclose the gutter with no openings at the end or backside of the gutter. Hold the appropriate end cap against the outside end of your gutter. Trace the basic shape of the gutter onto the end cap with a pencil. Allow for bending the extra end cap material to close off any openings behind the gutter, if necessary. Cut the end cap to fit snugly inside the gutter and to conform to the shape of the gutter and roofline (Figure 7).

Figure 7a

Figure 7b

Important: The gutter protection system is designed to be a completely enclosed system. There should be no gap or opening other than the factory pre-set water gap between the front lower edge and the gutter.

8. Attach the end cap to the panel by screwing two ½" zip screws through the end cap flap and panel. The flap may be positioned above the panel to prevent rain spillover at the end of a gutter run or under the panel for a better appearance.

9. See special instructions for Inside Corners, Outside Corners, Perforated Panels, Diverters, etc.

PERFORATED PANELS

Rooflines often form valleys that cause concentrated streams of water to empty onto the roof over a straight gutter run and upper level gutters sometimes empty onto the roof above a lower gutter. These conditions may cause rainwater to overflow the gutter protection system and can be a source of callbacks.

If the heavy flow area can be identified prior to installation, position and install perforated panels over the problem area by integrating it into the gutter-cover run. Be sure to install a bracket under each end of the perforated panel for additional support.

If a heavy flow area is identified after installation, install perforated panels into an already completed straight-run by cutting and removing the top, ribbed section of the installed panel at the problem area. The nose does not have to be removed. Position the perforated panel into place over the cut-out, overlapping at least 1 " on each side. Attach the perforated panel to the overlapped panel with ½" zip screws. Be sure to attach the panels under the nose to keep the water gap open. No additional brackets are needed.

Note: If possible, upper level gutters that empty onto lower roofs should have the downspout extended into the lower gutter.
Panels should then be cut to fit around the downspout.

Diverters

Diverters are designed to re-direct water flow and are used on inside corner valleys and other high volume areas to prevent overflow.
Cut a small roof diverter from a scrap panel. This can be used on inside valleys and other high volume areas.
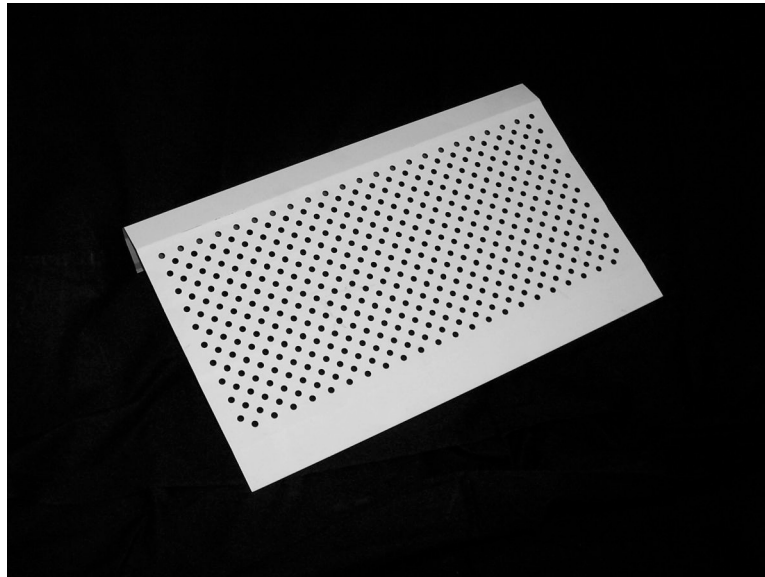
Perforated Panel

Fascia-Mount Installation

Fascia-mount installations are ideal for flat or low-pitched roofs and on shake, slate, metal, or other specialty roofs. Fascia-mounted panels do require additional effort and labor, so be sure to allow extra time.

1. To make sure the gutter is set in the right place, set a bracket in the high end of the gutter. Drop the gutter so the top of the bracket sets about ¼" below the drip edge. If you have no drip edge then set the top of the bracket in the high end of the gutter about 1" below the top of the fascia board.

2. To prepare the panel you must have a 5-foot break. Start by measuring 5 5/8" from the back of the panel (the end that goes under the shingle) and make a mark with your pencil (Figure 9a). Do this at each end of the panel and draw a line across the back of the panel connecting the two marks. This line will be the point at which the break is made. Draw another line ½" closer to the back of the panel (5 1/8" from the back of the panel). See Figure 9b. Put the panel in the break and score the second line (closest to the back of the panel) with a utility knife and break off (Figure 9c, 9d, 9e). Now reset the panel in the break and make a 90-degree bend along the remaining line on the panel (Figure 9f, 9g).

Figure 9a

Figure 9b

Figure 9c

Figure 9d
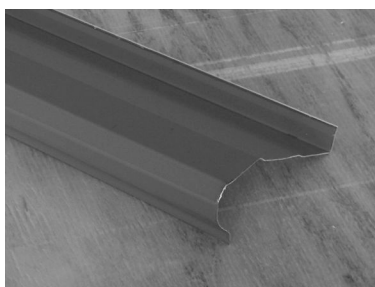

Figure 9e

Figure 9f

Figure 9g

3. Insert the brackets the same way as a standard install (three per panel with the two on the ends overlapping with the next panel). Make sure there is enough room above the bracket to fit the ½" 90-degree bend of the panel under the drip edge.

4. Attach the panel to the installed brackets and screw a 1 ½" screw horizontally through the ½" vertical panel bend and into the fascia. Use one screw at the midpoint and another at each end.

Inside Corners

On some homes, multiple roof planes come together in a valley to cause overflow at the inside corner. Factory-engineered inside corner ports are designed to reduce inside corner overflow.

These instructions are written for a right-to-left installation. If installing left-to-right, reverse any right / left notations.
Note: On some homes, overflow may be difficult or impossible to control.

1. Install brackets as near to the corner as possible.

2. Facing the corner, hold the panel to be installed into place over the gutter and brackets to the right (as if the straight gutter run was to continue past the corner). When in position, mark the panel approximately 1" beyond the inside gutter lip at the corner. Cut along this line and install this panel with the 1" overhang extending past the inside lip into the corner.

3. Move to the left side and cut a 45° notch into the nose of the panel to be installed. The nose profile of the installed panel to the right should fit into the 45° notch, forming a simple corner. Install this notched panel on the left side of the corner. Once installed there will be a pie-shaped opening in the valley, but there should be no gap or space between installed panels (Figure 10 e).

4. Place the valley port over the gap between the two panels and bend it to fit the contours of the valley (Figure 10 f). Secure it into place by screwing it to the panels with ½" zip screws making sure there are no gaps. IMPORTANT! DO NOT SCREW INTO THE ROOF VALLEY.

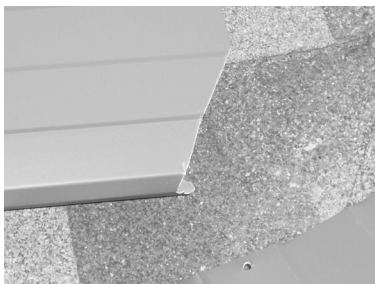Figure 10 a

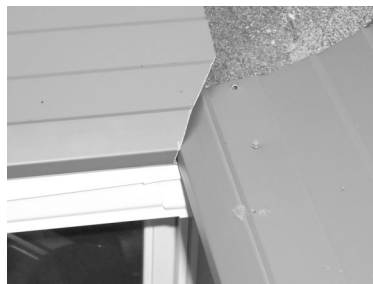Figure 10 b

Figure 10 c

Figure 10 d

Figure 10 e

Figure 10 f

Outside Corners

Field-engineered corners are designed to continue a straight gutter-cover run around a corner. If the distance from the edge of the last panel installed, to the corner of the run, is 4 feet or greater (less than 12" of panel left to wrap) do not continue. Instead, cut and install the corner from the center of a full five-foot panel and 'fill the gap' between the installed corner and the existing run with a cut-to-fit panel.

These instructions are written for a right-to-left installation. If installing left-to-right, reverse any right / left notations.

1. Install brackets as near to the corner as possible (Figure 11a).

Figure 11a

2. Facing the corner hold the five-foot panel to be installed in place over the gutter and brackets to the right (as if the straight-gutter run was to continue past the corner). When in position, mark the panel just above the nose (1/2" above the outward-most point) and approximately ¼" beyond the gutter lip at the corner where the panel is to be bent around the corner (Figure 11b). Place a second mark on the right upstream edge of the panel at a point that is in line with the roof ridge (Figure 11c). Draw a line from the nose corner mark to the upstream right roof ridge mark to form the right cut line (Figure 11d). ***Do not cut at this time.***
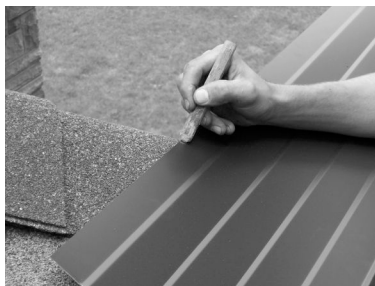

Figure 11b

Figure 11c

Figure 11d

3. Move this same panel around to the left side of the corner. Hold the marked panel in place over the gutter and installed brackets (to the left of the corner) so that the corner mark (from #2 above) is positioned approximately $^{1}/4$" beyond the gutter lip at the corner. (Note: The corner mark indicates where the nose will be bent around the corner. If the line appears to be in the wrong place, re-measure and re-mark. When in position, place another mark on the left upstream edge of the panel that is in line with the roof ridge. Draw a line from the corner mark on the nose (same mark as in #2 above) to the upstream left edge mark (at roof ridge). This line will be the *left bend line. Do not bend at this time.*

4. Place a mark on the upstream panel edge 6" to the right of the left bend line from #3 above (between the left bend line and the right cut line). Draw a line between this upstream edge mark and the corner mark on the nose (from #2 above). This line will be the *left cut line.* When installed, the right cut line will overlap the left cut line and align with the left bend line.

5. The panel will not overlap under the nose, but will form a corner. Draw a vertical line from the corner mark on the nose (from #2 above), straight down and around the lower water drip edge. This line should be perpendicular to both the nose and to the front and back edges. This is a *reference line* only. Do *not cut.*

6. Mark a second point along this vertical reference line just under the nose, ½" below the outward-most point of the nose.

7. Measure and mark a point along the lower drip edge 1 ¼" on both sides of the vertical reference line. Draw a line from both of these lower edge marks to the point just below the nose on the vertical line (#6 above). These lines should form an angle that will form a corner when cut.

8. Cut the panel along the marked cut lines above the nose. Bend the left panel downward along the bend line so the panel `fits' over the ridge.

Figure 11e

9. Cut the panel along the lower cut lines to form a notch, leaving 1" of uncut panel material at the nose. Bend the panel at the nose to form the corner, aligning the upper right cut line with the upper left bend line along the roof ridgeline.
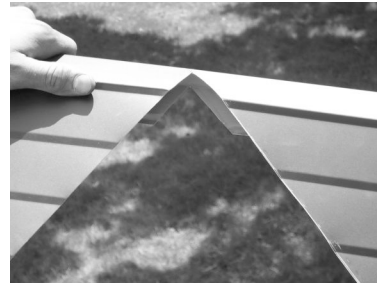

Figure 11f

Figure 11g

10. Slide the corner under the appropriate ridge-cap shingle and attach to the existing panel run at the overlap.

11. Attach the corner to the gutter with brackets.

12. Proceed around corner with straight runs.

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