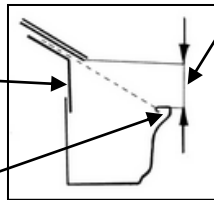


How to Install IG2™ Slide

- Please read whole instruction before you begin! This is not a step-by-step process.
- **Avoid costly mistakes...** on [pages 4-6](#) learn **why** you need to do what you are asked to do.
- When you install IG2™, make sure you leave no open areas.

Make sure that the back side of gutter is overlapped with flashing ([1.Why?](#) ->below)

Re-seal existing gutter seams **all the way up** to outside gutter edge ([2.Why?](#) ->below)

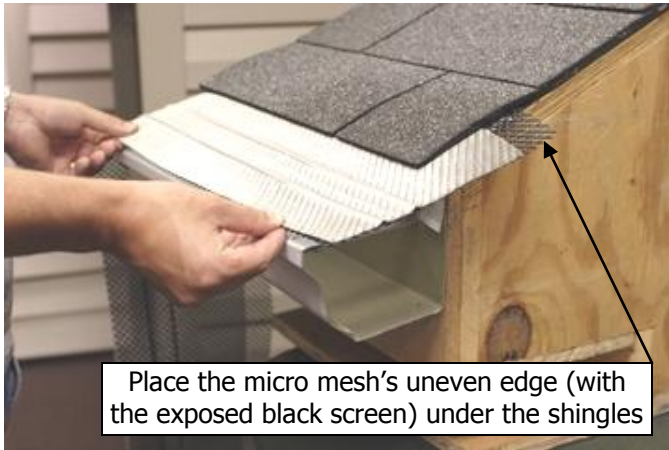


Set the micro mesh at a downward pitch of:

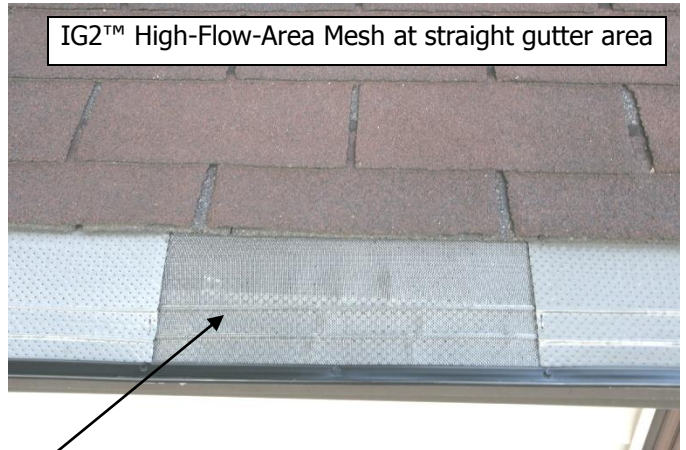
- 2 1/2" or more at high-flow areas (min 1 3/8")
- 1" or more at other areas (min 1/2")

Reset gutters as needed ([3.Why?](#) ->below)

Remember: the greater the pitch, the better it works! Do not allow micro mesh to sag. Setting pitch at its minimum slows self cleaning process.



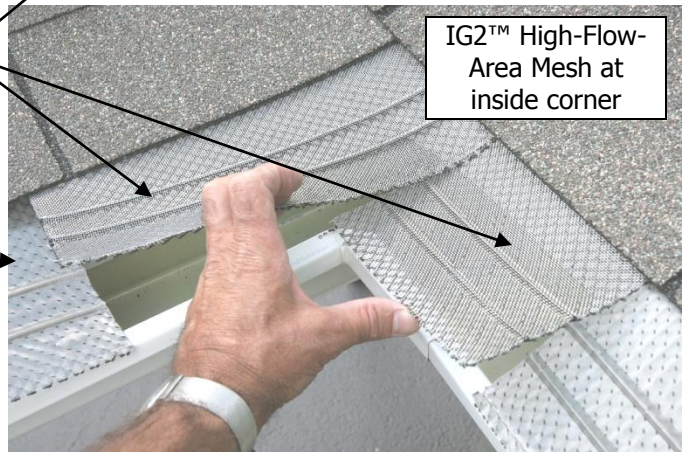
Place the micro mesh's uneven edge (with the exposed black screen) under the shingles



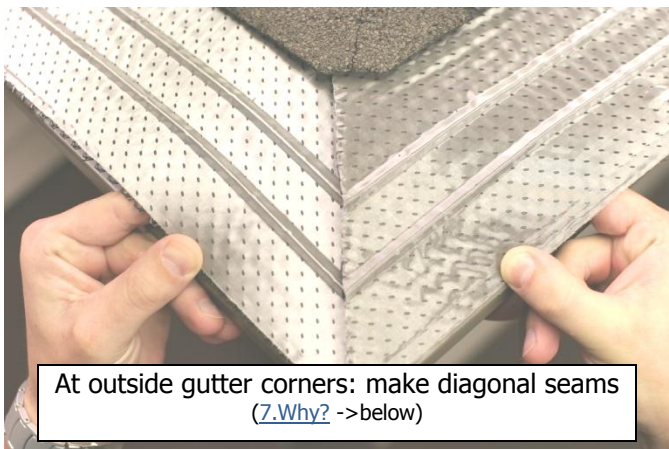
IG2™ High-Flow-Area Mesh at straight gutter area

Use IG2™ High-Flow-Area Mesh under high-flow areas ([4.Why?](#) ->below)

- At inside gutter corners: Set the seams so water running off the valley will slide over each seam as shown
- Keep seams narrow, approximately 5/8" wide ([5.Why?](#) ->below)
- Stitch every seam with stainless steel wire ([6.Why?](#) ->below)

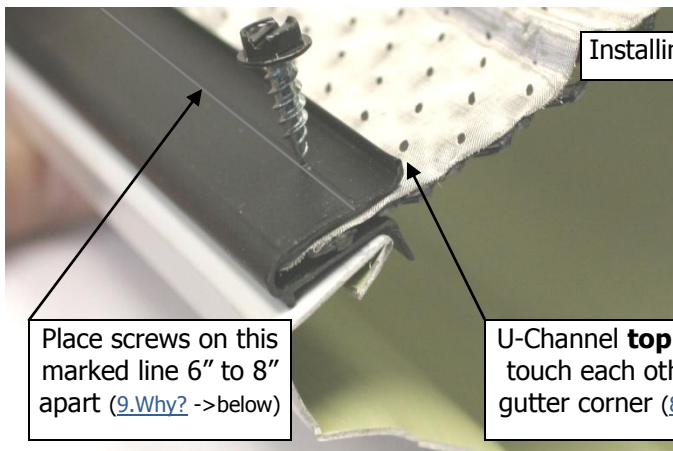


IG2™ High-Flow-Area Mesh at inside corner



At outside gutter corners: make diagonal seams ([7.Why?](#) ->below)





Installing U-Channels

Place screws on this marked line 6" to 8" apart (9.Why? ->below)

U-Channel **top** edges should touch each other at **inside** gutter corner (8.Why? ->below)



Place screws every 12" at roof edge (10.Why? ->below) or place small roofing tar dots there instead.



Before you screw U-Channels at inside gutter corner, put a bit of clear silicone caulking between U-Channels and gutter rim (approx. 6" in each direction) (11.Why? ->below)

Completing high-flow areas

Important: Make sure ALL high-flow areas pass the garden hose test! Remove the nozzle from your garden hose, position it over the high-flow area, and run it full strength. (At extremely large high-flow areas use bucket of water instead of garden hose.) Your goal: no overflows or leaks. Adjust as necessary; don't move on until it passes the test.

Keep in mind:

1. IG2™ can handle very heavy downpours, even at large roof valleys, as long as you slow down that running water.
2. Make sure you install IG2™ High-Flow-Area Mesh under high-flow areas.
3. While testing any given area, **allow the water to run for at least 30 seconds. That's how long IG2™ Micro Mesh needs to reach its full filtration ability.**

Water-Speed Controllers

If necessary, you can install Water-Speed Controllers at the bottom of your high-flow areas. You can make these yourself out of rigid metal, matching the material and color to your roofing surface.

- For asphalt shingles, use .032 gauge gutter coil. Choose a color that matches your shingles.
- For copper valleys, use copper sheet.

On page 3, you'll see how to install Water-Speed Controllers on the most popular kind of roof—asphalt shingles with no metal roof valleys. If you have a different roof surface, see our additional instruction sheet: [How To Install Water-Speed Controllers](#).

Use "wet or dry" type roofing tar to attach Water-Speed Controllers. **Do not** use screws or nails!
(13.Why? ->below)



Water-Speed Controllers installed on asphalt shingle valley (12.Why? ->below)



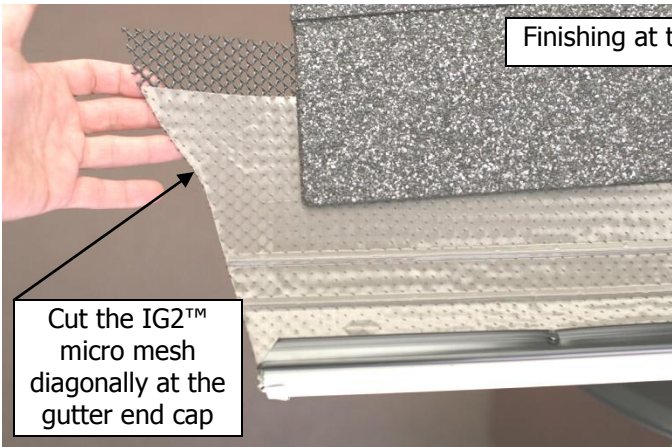
Water-Speed Controllers installed on straight part of asphalt shingle roof



Testing IG2™ at inside gutter corner under roof valley with Water-Speed Controllers

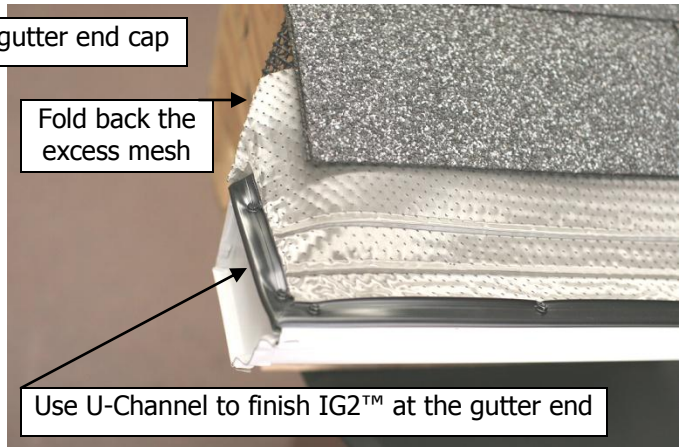


Finishing at the gutter end cap



Cut the IG2™ micro mesh diagonally at the gutter end cap

Fold back the excess mesh



Use U-Channel to finish IG2™ at the gutter end

For those who want to know why they need to do what they are asked to do

Once you understand natural water behaviors, and how IG2™ is designed to respectfully deal with those behaviors, you will be able to knowingly focus on important installation details and avoid costly mistakes.

1. Understanding what is happening on top of the IG2™

- a. Very fine IG2's micro mesh filtrates out most of the dirt, but it must be set with downward pitch, otherwise heavy dirt, such as roofing granules or sand may accumulate on top of micro mesh and block water getting through.
- b. The very fine micro mesh will let through huge volume of water as long as that water will not rush with its high speed. This is why Water-Speed Controllers need to be set at high-flow areas.
- c. Regardless of water volume, some of the water has a tense to travel far down on top of the micro mesh in form of thin water film. In order to brake that film IG2™ system has 3 brakes: 2 created ridges on the micro mesh and 3-rd is the raised top edge of the U-Channel. This is why that top edge needs to be continues, especially at high-flow area.
- d. Some type of asphalt roofing shingles do release some kind of roofing tar, which may clog very fine standard IG2™ micro mesh. Based on our so far experience (since 2005) it happens only at high-flow areas. IG2™ High-Flow-Area mesh does not have that problem. This is why it needs to be installed at such areas.

2. Understanding what is happening under IG2's surface

- a. Water splashes all over under the micro mesh, especially in areas close to outside gutter edge. Some water "hangs" under the micro mesh and rushes toward outside gutter edge. U-channel's bottom leg well shields that along the straight parts of the gutter. However at inside gutter corner (typical high-flow area) you are not able to perfectly connect bottom legs together of both U-Channels, which create a diagonal seam. This is why you need to: (1) seal very well (with gutter sealer) all gutter fasteners and seams **all the way up**, especially at outside gutter edge, and (2) seal U-Channel seam with clear silicone caulking.
- b. Water also gets into the U-Channel, and depending on its angles, U-Channel by itself may become a tiny gutter and carry some water sideway in it. In order to minimize that effect, U-Channel has a small back leg designed to slightly tilt U-Channel toward the gutter. This works very well along the straight parts of the gutter, however at inside gutter corner you need to do extra protection. So additionally seal U-Channels to the gutter edge approximately 6" in each direction of the centered miter.

1.Why? *Make sure that the back side of gutter is overlapped with flashing*

You do not want to create any chances for splashed water (under micro mesh) getting behind the back of the gutter.

2.Why? *Re-seal existing gutter seams **all the way up** to outside gutter edge*

(Refer to 2.a. [above](#)): *Water splashes all over under the micro mesh, especially in areas close to outside gutter edge. Some water "hangs" under the micro mesh and rushes toward outside gutter edge. U-channel's bottom leg well shields that along the straight parts of the gutter. However at inside gutter corner (typical high-flow area) you are not able to perfectly connect bottom legs together of both U-Channels, which create a diagonal seam. This is why you need to: (1) seal very well (with gutter sealer) all gutter fasteners and seams **all the way up**, especially at outside gutter edge, and (2) seal U-Channel seam with clear silicone caulking.*

3.Why? *Set the micro mesh at a downward pitch of:*

- *2 1/2" or more at high-flow areas (min 1 3/8")*
- *1" or more at other areas (min 1/2")*

Reset gutters as needed

Remember: the greater the pitch, the better it works! Do not allow micro mesh to sag. Setting pitch at its minimum slows self cleaning process.

(Refer to 1.a. [above](#)): *Very fine IG2's micro mesh filtrates out most of the dirt, but it must be set with downward pitch, otherwise heavy dirt, such as roofing granules or sand may accumulate on top of micro mesh and block water getting through.*

4.Why? *Use IG2™ High-Flow-Area Mesh under high-flow areas*

(Refer to 1.d. [above](#)): *Some type of asphalt roofing shingles do release some kind of roofing tar, which may clog very fine standard IG2™ micro mesh. Based on our so far experience (since 2005) it happens only at high-flow areas. IG2™ High-Flow-Area mesh does not have that problem. This is why it needs to be installed at such areas.*

5.Why? *Keep seams narrow, approximately 5/8" wide*

Micro mesh double layer decreases infiltration ability, so keep it as small as you can, but large enough to make a proper stainless steel wire stitch.

6.Why? *Stitch every seam with stainless steel wire*

Stitch to prevent potential seam openings

7.Why? *At outside gutter corners: make diagonal seams*

Outside corners do not receive much water, so just make a nice miter.

8.Why? *U-Channel **top** edges should touch each other at **inside** gutter corner*

If while installation you will not make them perfectly touch, create the same height connection with clear silicone caulking while sealing this area.

9.Why? *Place screws on this marked line 6" to 8" apart*

Keep screws on marked line. This assures catching at least one full hole of supporting screen.

10.Why? *Place screws every 12" at roof edge*

Place screws at roof edge to secure micro mesh to prevent its potential collapsing. If you are concerned about creating any screw holes at the roof edge, you may place small roofing tar dots there instead.

11.Why? *Before you screw U-Channels at inside gutter corner, put a bit of clear silicone caulking between U-Channels and gutter rim (approx. 6" in each direction)*

(Refer to 2.b. [above](#)): *Water also gets into the U-Channel, and depending on its angles, U-Channel by itself may become a tiny gutter and carry some water sideway in it. In order to minimize that effect, U-Channel has a small back leg designed to slightly tilt U-Channel toward the gutter. This works very well along the straight parts of the gutter, however at inside gutter corner you need to do extra protection. So additionally seal U-Channels to the gutter edge approximately 6" in each direction of the centered miter.*

12.Why? *Water-Speed Controllers installed on asphalt shingle valley*

(Refer to 1.b. [above](#)): *The very fine micro mesh will let through huge volume of water as long as that water will not rush with its high speed. This is why Water-Speed Controllers need to be set at high-flow areas.*

13.Why? *Use "wet or dry" type roofing tar to attach Water-Speed Controllers. **Do not** use screws or nails!*

- Use "wet or dry" type roofing tar, so you can make easy adjustments during water testing
- Place that tar on the bottom side of the metal, otherwise potential sliding snow make brake the top roofing shingle.
- Make with that tar vertical lines (not horizontal) to avoid trapping moisture above your seal connection.
- Do not use screws or nails, so you do not create a leak in the roof.

For more information visit www.InvisiGuard.net
(IG2™ is protected by U.S. Patents: 7,056,433; 7,198,714 and Patents Pending.)