HeatDefender Steep Slope Eave Applications (All Cable Configurations) Installation Instructions

ROOF TYPES

- Steep Slope Asphalt Shingle Roofing

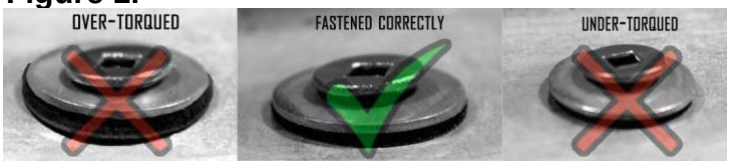
LAYOUT

- HeatDefender cable concealer should be installed on first course of shingles above roof eave
- Base extrusion should be fastened into roof rafters when possible
- If a rafter is not available for all fasteners in a base extrusion run, use fasteners with threads that will engage the roof substrate
- When installing HeatDefender, consider the heat cable's minimum radius and space components to avoid damaging the heating cable.

INSTALLATION

1. Starting on the first course of shingles above the eave, dry fit HS-800 base on shingles by laying in place so that the eave edge of the base extends over the roof by 1/8”.
2. If installing optional flashing (HS-802-FL) on an existing roof, check that it fits appropriately under the upper course of shingles. The top of the flashing should meet the nail line of the upper shingle course. Adjust the HS-800 base placement as necessary.
3. Once the HS-800 base placement is known, snap a chalk line at the top edge of the extrusion for the entire length of the area heating cable will be installed. This is a reference mark for all base installations.
4. Locate rafters and mark them on the roof and the HS-800 bases so that, when possible, fasteners engage rafters. A minimum 3/8” gap must be left between each 6’ run of HS-800.
5. Mark fastener placement on all sections of HS-800 base, 12” in from each end, and then in the center. The maximum distance of fastener placement is 24” OC, and should include 2 fasteners (vertical orientation) at each location into the rafter or roof deck.
6. Drill 5/16” fastener holes in the HS-800 bases at marked locations.
7. Using the HS-800 bases with fastener holes as a template, pre-drill holes into rafters and roof deck.
8. Insert bushings (BUSHING B-100-S) into drilled holes in HS-800 bases. The bushing's broader flange will sit on the roof deck.
9. Back-fill pre-drilled roof fastener holes with sealant.
10. Place HS-800 bases on the roof, carefully aligning fastener holes with pre-drilled holes in roof.
11. Using appropriate fasteners (#10 Woodscrew) inserted into included bonded washers, screw each HS-800 base into place. Do not over-torque the bonded washer.
    Note: The exact torque setting will vary depending on the roofing substrate and fastener used. Use Fig. 1 as a visual reference for correct washer compression.

Figure 1.



12. Install a Cable Return Hollow Base (HS-800-H) at the end of the entire extrusion run where the cable will loop, leaving a minimum 3/8" gap between it and the HS-800 base.
13. Measure and lay cable into HS-800 bases, Cable Return Hollow, gutter, and downspout as needed.

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When looping cable at the end of the run, follow the cable manufacturer's guideline for minimum radius. The cable should be tested for power before extrusion covers are installed.

14. Install all HS-800 covers once all heat cables are completely seated within HS-800 base cable channels.
15. If installing a single extrusion run, rivet the cover to the base in at least two locations per 6' run. For the cable return hollow cover, rivet it in two places, one upslope and one on the eave side (See Table 1 for rivet details).
16. If installing multiple runs, once all runs are in place, snap Couplings (HS-803-C) over HS-800 covers and end cable return covers, joining the sections. (If using optional flashing, HS-803-C is not required; continue to step 19).
17. To secure, rivet each Coupling on one side in two locations. (See Table 1 for rivet details).
18. If using an End Cap (HS-800-END), plug slots that will not be used for wire with the included rubber plugs. Install one end cap on each end by fitting over the HS-800 or End Cable Return Hollow Base with 2 rivets on one side in two locations (See Table 1 for rivet details).

Table 1.

Application	Rivet Cinch Length	Rivet QTY and Location
End Hollow Base to Cover (HS-801-H to HS-803-H)	.209"	2 rivets in cover, one on the upslope side, one on the downslope side
HS-800 Base to Cover (HS-801 to HS-802)	.349"	2 rivets in cover on the marked line (see HS-800 cutsheet)
Coupling or End Cap to HS-800 Cover (HS-803-C to HS-802)	.183"	2 rivets on one side of coupling or end cap (left or right)
HS-800 Base, Cover and Flashing (HS-801, HS-802, HS-802-FL)	.349" + flashing thickness	2 rivets per run of flashing on the upslope side in addition to rivets in HS-800. Flashing coupling requires two rivets on one side of coupling (left or right).

19. If using optional Flashing (HS-802-FL) on an existing roof:
    a. Heat a flat bar with a propane torch (if necessary) and lift the course of shingles above the extrusion location. Tip: Insert a metal sheet to separate shingle layers as you move across the roof
    b. Run a bead of sealant under the top of the flashing and insert it under the upper course of the shingles.
    c. Lock flashing in place by pushing down over extrusion.
    d. Install Flashing Couplings (HS-802-FL-C) to overlap flashing on each side by a minimum of 1.5".
    e. Rivet flashing to extrusion in 2 upslope locations per section. (See Table 1 for rivet details)
20. If using optional Flashing (HS-802-FL) on new roof installations:
    a. Run a bead of sealant under the top of the flashing
    b. Lock flashing in place by pushing down over extrusion.
    c. Install Flashing Couplings (HS-802-FL-C) to overlap flashing on each side by a minimum of 1.5".
    d. Rivet flashing to extrusion in 2 upslope locations per section. (See Table 1 for rivet details)
    e. Install the upper course of shingles over the flashing.
21. Connect the heat cable wire to the control unit.
22. Complete electrical as required.

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