

## Roof Valley Penetrations

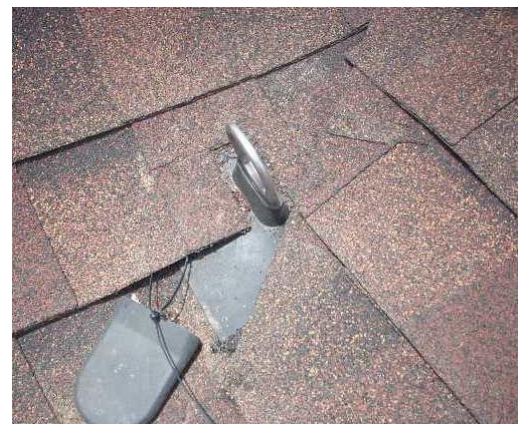
Providing the proper construction of a roof valley is critical to preventing leaks and ensuring a long life to the roof assembly. Whether it is composition shingles or roof tile, follow the manufacturer's installation instructions. Most roof tile manufacturers reference the [Tile Roofing Institute, Concrete and Clay Tile Installation Manual](#).

Another reference is the NRCA Roofing and Waterproofing Manual. Section 3.6.3 in the Steep-Sloped Roofing section addresses valley construction. *"A valley is created at the downslope intersection of two sloping roof planes. Water runoff from the portions of roof areas sloping into a valley flows toward and along the valley. Because of the volume of water and the lower slope along a valley line, such an area is especially vulnerable to leakage. A clear, unobstructed drainage way is desired in valleys, so the valley may carry water away quickly and perform successfully for the life of the roof system."*

With composition shingle roof systems, there are three basic types of valleys, open valleys, closed-cut valleys, and woven valleys. For roof tile construction there are open or closed valleys. When constructing any type of valley, it is important to keep fasteners 6" to 8" away from the center of the valley. Many shingle manufacturers specify no fasteners within a minimum of 6" from the center of the valley. NRCA states, *"To prevent leakage it is important with all types of valley construction to avoid placing fasteners near the center of a valley. Generally, underlayment fasteners should be kept back from the center of the valley a minimum of 8 inches (200 mm). However, on low-sloped roof valleys or in climates where freeze-thaw cycling or intense rainfall may be regularly anticipated, holding nails back further from the center of the valley is not uncommon."*

If fasteners are to be kept out of the valley, it is common sense that penetrations, i.e., flashings, vent pipes, and roof anchors, not be installed within this same zone. Installing these penetrations in the valley creates an obstruction of the drainage and in areas subject to freezing and snow, may cause an ice dam.

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