

SIX STEPS TO BUILDING A 150-YEAR ROOF

by Joseph Jenkins

Roofs can and should be routinely built to last at least a century. In fact, 150 years is a reasonable expectation of a roof's longevity if the roof is properly constructed. How do you build a roof to last that long? You can begin by examining roofs that are currently a century or more old and then either copy or improve on the traditional materials and techniques used in the creation of these roofs.

As a professional slate and tile roof restoration contractor, I have had the unusual opportunity to inspect, repair, restore, disassemble and reassemble many hundreds of century-old, or older, roofs over the past 30 years. This is what I've learned about roof longevity:


1. Use a long-lasting roofing material such as slate or tile. Make sure the slate is top quality S1 grade. Never use fake substitutes.
2. Use a long-lasting roof decking material such as natural rough-sawn lumber or planed boards at least 3/4" thick. Avoid toxic CCA treated lumber and any laminated materials such as plywood, particle board or OSB.
3. Use copper or stainless steel nails to fasten the slate or tile to the roof. A good grade of hot-dipped galvanized nail will last 100 years or more, but not as

long as copper or stainless steel nails, which will last indefinitely. Don't use electro-galvanized or aluminum nails.

4. Use stainless steel flashing, such as terne-coated stainless. Copper and lead flashings will last indefinitely if kept painted, but will develop pitted holes in 60-70 years if unpainted, especially in exposed areas like valleys. No one yet knows how long terne-coated stainless will last, but it will presumably outlast both copper and lead. Alternatively, build rounded (slate) valleys and eliminate the valley flashing, which is subject to the greatest wear on the roof.

5. Design the roof properly. Use adequate slope — the more the better (the roof should be too steep to walk on). The lower the slope, the shorter the life of the roof. Build the roof sturdy enough to prevent sag over the years.

6. Make sure the roof is installed by properly trained personnel who understand the nuances of traditional roofing and who possess the proper tools and equipment. For example, slate roofs should never be walked on during installation.

In addition, traditional, long-lasting roofs have never required the use of ice and water membrane. This material can be completely avoided (see related article this issue). Felt paper, coincidentally, is not necessary for a slate roof to function properly, although 30-pound roofing felt is recommended as a temporary covering over the roof sheathing prior to slate installation. Tile roofs are more dependent on a heavy felt underlayment. 



This 150-year-old roof was built of Vermont slate on wood decking and probably nailed with hot-dipped galvanized nails.