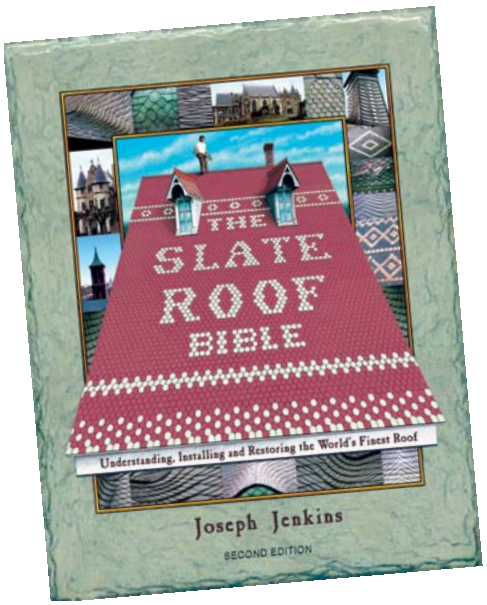

READERS WRITE

HEAT TAPES — *What is you opinion of heat tapes and slate roofs?* M.Y., MA

TR — Heat cables can be effective where needed, if installed properly. We install them by drilling a small hole (3/16") with a masonry bit on the bottom corner of the slate, then running a copper or stainless steel wire through the hole to tie the cable to. Heat cables are rarely needed, but if you do need them and can install them without damaging the roof, they will keep ice from building up along eaves and in gutters and valleys.

GERMAN SLATING — *I am a roofer from Germany and I´m interested in slate all around the world. Here in Germany we have a lot more slate styles to work with — the old German style for example. No one can learn this from reading a book; you have to exercise many years and still you will learn even more on every roof. I´m always glad to have someone with me from the old school. Here are some pictures of the old style. If you are interested in more, or if you want more information, just let me know, or maybe we can start a discussion on the slateroofcentral.com message board. My English is terrible, but by that way I can get some exercise.* M.Z., Germany

TEDDY ROOSEVELT'S CHURCH — *I took this photo for you [right]. The original exterior of this church was clapboard and at some point in the past they applied a stone veneer over the clapboard. What you see at the edge of the roof is how they wove the slates in horizontally to extend the field of the roof out over the veneer. I have never seen this before. This is on Teddy Roosevelt's church on the North shore of Long Island. We hope to be doing masonry restoration work in future on another area of the church.* Ken Follet

CONTRACTORS VS. DIYERS — *I am finding the debate in TR over roofing contractors vs. DIYers entertaining. I am an architect and have been involved in construction since I was a kid. I have heard claims that as much as 90% of all construction lawsuits involve roofs. Certainly, the largest single area of problems I have had to deal with is roofs. And somehow the roof always leaks over the custom wood parquet floor in the owner's office. There are some very good roofers out there — they are not the norm. It is very easy to get into the roofing business, generally requiring less skills, and experience.*

About 10 years ago we rebuilt a 200 year old church after it was nearly destroyed by fire. They had a beautiful slate roof, but could not afford to replace it. We selected a concrete fiber ersatz slate that is popular in Europe as the most affordable alternative at that time. Within two years "slates" were sliding off the roof, the contractor who had originally put the roof on persuaded the congregation that the problem was with the concrete fiber shingles the architect had selected and offered to replace them with asphalt. Since this was an obvious design error, the architect should have to pay for it. Concrete fiber shingles are frequently used by roofers with experience in real slate in Europe without difficulty all the time. Most manufacturers of concrete fiber shingles in the U.S. — in fact most manufacturers of almost all innovative roofing materials over the past four decades have left the U.S. market due to lawsuits.

Continued On Page 25

It is virtually impossible to find an American roofing contractor who does not address everything with a power nailer and roof glop. While there are certainly shoddy manufacturers, innovative new building materials — particularly roofing materials, suffer the double bind of perfecting the material and manufacturing while trying to teach contractors, particularly roofing contractors, new skills. Concrete fiber shingles are not slate. They will not last for four generations, but products from reputable manufacturers properly installed can last many times longer than asphalt.

I have used the same concrete fiber shingles that were installed on the church on my own home. I too cannot afford real slate, but was able to pick up many pallets of concrete fiber slate for a fraction of the price of asphalt shingles as those manufacturers left the U.S. markets. I installed it carefully following instructions from the Slate Roof Bible as well as older standard resources such as time-saver standards and graphic standards (resources available to architects for at least 1/2 century). With some modifications (do not get aluminum anywhere near concrete).

I have made a number of mistakes — yet I do not have a single leak on a finished roof. I have never had a shingle come off. Eventually, I found out the shingles I am using are exactly the same ones used on the church. All I can figure is the contractor installed them all with a power nailer. There are a few roofing contractors out there that actually know what they are doing. But they are the exception rather than the rule. There are fewer still that comprehend that there are roof materials besides asphalt shingles, rubber, and builtup, and have the ability to appreciate that installing a different roofing material may prove easy, but may require different approaches, skills, and techniques.

THE MYSTERIOUS STAINS REVISITED — *I enjoy getting your Traditional Roofing Magazine very much. Perhaps the following will help explain the stain discussed on page 2 of the 2007 issue. Several clues have been overlooked. The most important clue is that the stain is on the "North" side of the roof. It tells us that within the suns daily solar arc the North side of the roof is cooler than the rest of the roof and therefore it is prone to condensation that would be dried off on the other three faces of a roof.*

Note that the major stain is associated with the juncture of the shed roof addition butted next to the main structure. One would therefore want to look at the venting of this juncture very closely and determine if there is a forced venting of moisture through the roof at this location…..also note the crisp line of the juncture and that the stain appears to "run" downhill from it. Also note a little further up the roof there appears to be a demarcation line below which there is staining and above which the roof appears relatively unstained. This demarcation line may well be a knee wall in an attic or living space in an attic and thus again, a forced ventilation through the slate layers with resulting condensation. One might well find at 5 am in the morning a good portion of the year that the entire area of the stain is saturated with running condensate.

The south, east and west faces of the roof will be dried out by the sun's warmth if the same building details exist there, and thus no staining.

I suspect the staining itself is an asphalt residue carried onto the roof from the inappropriately installed felt insert strips. Someone didn't have faith in what they were doing with their slates….the same is often found on wood shingle roofs with the shingles warping, buckling and splitting. I suspect the pressure washing will be a short term cure; as the basic physics of the problem has not been addressed, nor can it be, shy of tearing the house or roof apart. The long term prognosis of the roof is that the slates on the north elevation will have nails rusting off much sooner than the other roof faces thus greatly shortening the life of the roof.

SEEING IS BELIEVING — *Last fall I stumbled over your website, [slateroofcentral.com] and as a slater through the '90s, I was very impressed with the quality and content found there. I had just recently scanned and downloaded much of my roofing portfolio, and offer to give you a picture of some clowns who thought they'd revolutionize slate installation by attaching the slates with air pallet nailers.* D.C.

DIYs VS CONTRACTORS — *I have dealt with contractors good and bad all my life. Most new product problems have tended to be just like asphalt shingles and good roofers trying to work with slate — if the methods of working with a new (or old) product do not exactly match what they are used to with typical construction, things will fail. One of the reasons DIY's do better with slate is BECAUSE they do not think they know it all. Despite, all the advice — all the do's and don'ts — most construction including slate is very forgiving — but not infinitely.*

If you at least become aware of best practices, and try to follow them, it is highly likely everything will work out — even if you make a few mistakes. But completely ignore the methods for a specific material and treat it like what you are used to, and you can pretty much guaranteed it will not work.

There are a few fly-by-night manufacturers, and there are cases where good manufacturers screwed up, but most materials failures in construction are failures to come even close to following proper installation. One of the reasons you can often get way with a few mistakes if you try to follow best practices is because those techniques usually assume some mistakes will be made. Skilled people with experience know exactly what they can get away with. DIY selfers don't, but tend to take the guidelines as law. The most dangerous person is the installer who is used to a completely different material, but believes he knows what he is doing.

FROM SCOTLAND — *I have been a slater/roofing contractor in Scotland for 25 years. I saw your Slate Roof Bible on Ebay and decided to buy it. Flicking through it I was interested in your roof brackets to slate up the roof. I noticed you said when you removed them when the roof was slated that you clip a slate in. To get up the roof we use what we call "Gabbits," which are 30mm wide by 6mm thick pieces of steel bar welded together to form a right angle about 12 inches long each, then we weld a spike to the end of this so when we need to get up the roof, we centre hole the slate above, spin it to the side and drive in the spike to the sarking [roof deck], then repeat this 10 slates or so along the roof depending on the length of your batten.*

Continued On Page 34

Once the roof is slated you remove gabbit and spin the slate into place which leaves then no need to clip the "missing" slate in.

Re replacing broken slates, I use the ripper to remove one nail from above the broken slate which then leaves this slate ready to spin round, which sometimes can be a pain, but once you get it to move, slip the replacement slate in and you have one hole available to nail.

SLATE SIDING —*The slate [in the photo] is all reclaimed roof shingles, mostly Munson slate from Maine along with some Vermont slate. We originally planned on only doing around the front door, but I found enough to do the entire house almost by accident. Also, the slate cost a lot less than even unfinished wooden shingles and went on a lot faster because the shingles were larger. The carpenters also were very excited about it, because it was something new to them.* T.E., Maine

SPRINGHOUSE — *I was inspired to slate roofing by your Slate Roofers Bible. I had an asphalt shingled roof on my farm springhouse and my thought was how nice a slate roof would make the building look. I purchased my slate from Vermont and got your book and some tools and went to work. I could not find any local advice and hope my job was at least complementary to the fieldstone walls. I used copper nails and peaks, although I did not have a break for crisp bends.* Charles Rosamilia

WHAT DO YOU THINK? — *We are beginning to see various "batten" or slate hanger strip systems that appear to be dependent on the self-sealing ice membranes to help keep water out. Since they are held by hangers, these systems do not require a large overlap (claim that they use half as much slate as a conventional installation), do not place as much weight on the roof and do not produce as much waste because there is no nailing. What do the experts at Traditional Roofing think of these systems? Thanks for all your good efforts!* K. M., NY

TR — Readers who have experience with slate roofs installed on strip hangers, let us know what you think!

LEAKING CHIMNEY — *I am off this afternoon on a roofers holiday (i.e. rain). I was reading your answer to "leaking chimney" on page 25 of TR 6 and thought I could shed some light from my 30 years of roofing. When I am dealing with a leaking brick chimney, the first thing I look at is the top of the chimney. If the mortar wash is old, it can "perk" water. Evidence of this will show up in the mortar joints around the top of the chimney. If the joints are black, it indicates that fungus is growing on the lime substrate. This tells me the cause of the leak is the mortar chimney cap or wash. If we are dealing with a stone chimney, the answer is usually pretty straight forward. East coast stone is porous. When I run into this problem here in central Virginia, I will spray the chimney with Hydrozo Clear 16. It is the only product I have found that lasts. Silicone sprays do not last. If I have to deal with a new stone chimney, the only way I will guarantee the chimney is to flash the chimney to the liner. Another way to check a chimney leak is to place a plastic tarp over it and duct tape the tarp so it won't blow off when the chimney is not in use. If the leak is still there, then the leak is roofing related. If the leak stops, then the leak is above the flashing on the chimney and not roofing related. When I replace a chimney cap or wash, I use 50% mortar mix and 50 Portland added to the sand. Thanks for letting me add my input to a common problem.* David A. Snyder, Rockfish Roofers, Afton, VA; 434-361-1218

PLYWOOD DECKS — *We are starting a graduated slate roof on a newly constructed residence next week and have a question which I think you can answer for us. During the pre-bid meeting with the builder, I stressed the importance of using wood plank decking as opposed to laminated plywood. During a site visit last week we found that the rafters are 2"x12" spaced 16" o.c. The roof slope is 9/12 in the field and 12/12 on the dormers. The roof decking is ¾" CDX plywood. The carpenters are covering the decking completely with self-adhesive ice membrane. I have informed the builder of the need for attic ventilation and he said that he would install gable end vents in an attempt to keep roof penetrations to a minimum. My question is, with the presence of laminated plywood do I need to change from smooth shank to ring shank copper nails when installing the new slate roof?* K.F., IN

TR — I don't recommend laminated wood roof decks under slate, as you know. I try to not get involved in plywood-decked roof projects. I know of no reputable documentation regarding ring-shank nails and plywood. I also do not recommend ring shank nails on slate roofs — they're not as strong as smooth shank, they break easily, and they make repairs much more difficult because they tend to snap off rather than pull out with a slate ripper. Solid wood decks and smooth shank nails are the traditional materials that have already been tried and proven and have been shown without any doubt to be capable of lasting a century or two. If the client wants longevity, that's what they should be using.

CALCULATING SLATES PER SQUARE — *How do you arrive at the number of slates per square at a 3" headlap?*

TR —You figure out what the exposure is for each slate [exposure = length of slate, minus the 3" headlap, then divide the remainder by two], then multiply that by the width of the slate to get the square inches of the exposed face of the slate, and then divide that into the square inches of a square (10' X 10' or 120" X 120" = 14,400 square inches in a square).

So a 24" slate with a 3" headlap would have a 10.5" exposure (which is the height of the exposed face) multiplied by 12" (12" is the width of the exposed face) = 126 square inches (exposed surface area per slate) divided into 14,400 = 114.28 slates needed per square.

SLATE ROOF RESTORATION — *Eric Sosa and I restored an old slate roof recently and we wanted to share some pictures with you. The house was around 100 years old and the roof on the addition had leaked for the last sixty years, as shared with us by one of the inspectors who personally knew the family who lived there. We salvaged slate from an old barn that had been damaged severely and subsequently collapsed in a windstorm.*

Continued On Page 36

The house we were working on had two different sizes of slates, and lucky for us the slate from the barn matched the slate that was on the roof of the addition. In the process of stripping back the valleys to put in the new copper, we discovered that when the addition was built, they used the slate that was removed from the original part of the house to start the slate on the addition. We stripped all of the ones that were that size and had enough to cover the spot where the chimney used to be and to keep all of the slate uniform on that side of the valley. We were able to remove the chimney, eliminate all of the leaks, and retain the slate roof. Thanks for writing and publishing the Slate Roof Bible, it was an invaluable source of knowledge and an absolutely necessary tool for the job. Thomas Liberto, Maryland (bottom photo, at left)

STACKING SLATE — *I am buying up a bunch of salvaged roofing slate to replace the roof on my home in the coming years. What is the best way to store shingles for several years, as in stacking and maintaining?*

TR — Just stack them on edge on boards, indoors or out, covered or not.

ASBESTOS IN SLATE — *I have a question that no one seems to know the answer concerning slate roofs. I am British and now live in Vermont. When in England (before retiring) I surveyed buildings for asbestos prior to their renovation or demolition. The very old slate roofs (not preformed or cement) very often contained asbestos. It looks in your "Roofing Bible" that this is a possibility.... I would so much appreciate an answer that would keep a very elderly gentleman happy.* P. C.

TR — There isn't any asbestos whatsoever in American slate. The term "asbestos slate" is a misnomer. Readers, prove me wrong.

ICE AND WATER BARRIER — *Have you seen red mastic essentially melt ice and water barrier? I recently came across another slater doing a job in Brookline, MA. The graduated roof had previously been installed with the larger slates at the top! The ice and water barrier had deteriorated to the point that the plastic top layer was the only material left after only six years. I agree with your perspective that ice and water is unnecessary if the slate is installed properly.* G. L., MA

TR — Self-adhesive modified bitumen, also called ice and water barrier and a lot of brand names, is a *temporary* underlayment and cannot be relied on for the long-term performance that slate roofs require. Therefore, the material should never be considered a necessary component of a slate roof assembly.

DESIGNS IN SLATE ROOFS — *I just wanted to thank you for the photo you sent from the Slate Roof Bible. This is what I came up with. I am working on other original designs as well now since this was successful. The brown spots are pine needles and debris; we had just taken the toe boards down and the roof hasn't been cleaned. The slate is Spanish "Cupa." This house is in Buckhead, GA, and among the first in the community (that we know of) to have a design in the slate.* Luc Vandebuerie, D.A.C.A. Roofing; 404-391-3187