

# NIGHTMARE ON CEDAR STREET

By Lynne Christensen

*Photo 2 –  
Product lifting  
caused by moisture  
being trapped in  
roof by deck covered  
with nonpermeable  
membrane.*



## INTRODUCTION

Cue the spooky music. You know, the heavy instrumental where your heart thumps in your chest and fear courses through your veins. It's clear that a terror-filled day awaits you, but this time it's not some disturbed maniac in a mask. No, the roofing industry has its own installa-

tion-gone-wrong scenes that play out one by one, day in, day out. Welcome to *Nightmare on Cedar Street*.<sup>1</sup>

## OUR CAST

Over the course of its 100-year history, the Cedar Shake and Shingle Bureau ("CSSB") has seen its fair share of poor installation practices. The CSSB is educating as many people as possible about the perils of poor installation practices, as incorrect application methods will significantly affect the integrity of a cedar roofing system. The following is quite true: even the best-quality product does not have a chance at performing well if it isn't installed correctly.

There are a few common culprits who keep appearing in scene after scene, like a B-rated movie that goes straight to DVD. Like a bad dream, we keep seeing people we'd definitely like to remove from our thoughts and make the roofing world a better place. Asked to come up with a list of the most common installation error culprits we experience, the cast is as follows:

### Erwin the Expert Contractor

This cast member is special—so special he'd warrant a designated parking space on the studio lot. Like a good ol' country song, Erwin has installed roofs the exact same way since the cows came home 30

years ago...and then went back out again. He relies on his longevity and network to keep more roofing jobs coming through his door. Problem is, he doesn't believe in continuing education ("My lifetime of experience means I don't need any training"), and Erwin hates using the computer ("Computers are for accounting clerks"), so he lacks up-to-date product knowledge. As a result, Erwin doesn't know:

- What current application specifications and techniques are recommended by the industry
- How new building codes are impacting installation requirements in his jurisdiction
- What new accessory products are on the market

While Mother Nature hasn't altered her recipe for making more wood (trees are a renewable, recyclable resource), there are a host of new accessory products that need Erwin's attention. He should be up to speed on what his local building code says regarding synthetic underlayments, spray foam, and OSB sheathing—noting that the only solid-sheet sheathing tested with Certi-label™ cedar shake and shingle products is plywood.<sup>2</sup>

Erwin doesn't follow instructions and is riper than a pumpkin in December for a job site callback on an installation issue. The



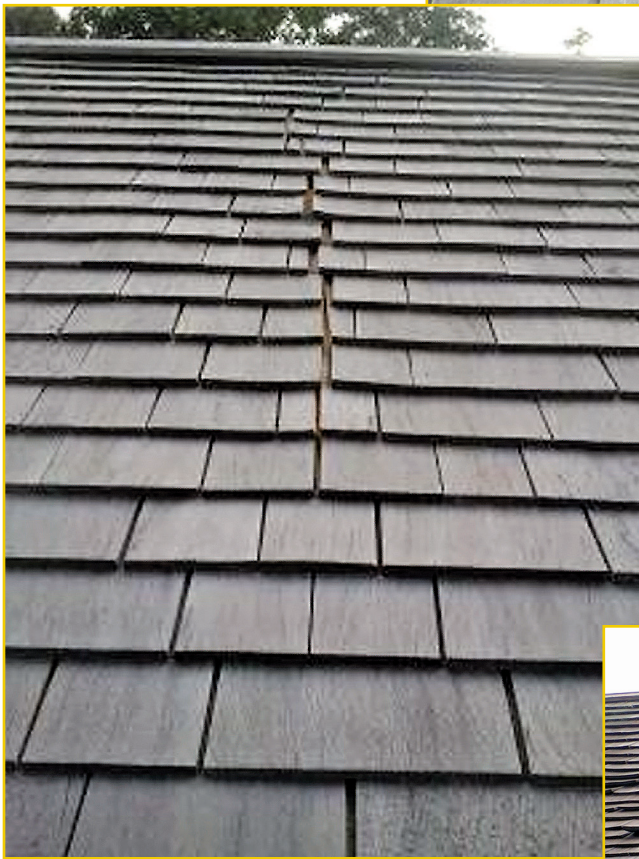
Photo 1 – Rot-felted application where felt paper has started to degrade following UV exposure.



*Photo 3 – Nonpermeable membrane used beneath shingles across entire roofing deck.*



*Photo 4 – Note how shingles have split due to moisture problems caused by installation of nonpermeable membrane across entire deck. Photo 3 and Photo 4 show two more examples of product lifting, curling, and splitting due to improper usage of nonpermeable membrane across the entire roof deck.*



bottom line here is that a contractor relying solely on an uneducated customer and one's easygoing nature is not following good business practice.

We've all heard about the contractor who calls up to ask about a very odd installation practice. One of our most shocking was a contractor who had installed hand-split shakes upside down (i.e., rough side facing the deck). Sure enough, he wanted a letter from the CSSB stating that this was acceptable; of course, no such letter was ever sent! Usually this type of bizarre telephone call means that the installation is already completed and that this particular contractor is looking for a way to avoid a tear-off. Beware.

Clients hiring Erwin the Expert-type roofing contractors can be quite intent on discussing their "shake/shingle roof." Please, roof consultants, have these folks contact the CSSB; we'd be glad to send them our flyer explaining the differences between a shake and a shingle. You can also download it here: <http://www.cedarbureau.org/cms-assets/documents/26244-377055.difference-between.pdf>.

*Photo 5 – Example of product lifting and curling due to installation of nonpermeable membrane across entire deck.*





The CSSB once had a roofing contractor call up and say he'd fixed a roof system problem by shooting two full tubes of caulk up the valley. Nice try. The roof should be mechanically sound, not reliant on caulk to patch up a job that will no doubt have issues in the future. We also informed this roofing contractor that caulk is affected by ultraviolet (UV) and will break down over time. The best advice we can give to anyone contemplating installing a new Certi-label™ cedar roof is to obtain the CSSB's installation guide and follow it precisely (and allow for local building code requirements to take precedence if there is a discrepancy between the two).

### Ralph the Rotfelter

Ralph is a roofing contractor who thinks he's doing everyone a favor by lowering the interlayment product between courses far beyond acceptable ranges. Ralph believes this

gives the roof more protection. The problem he misses is that felt interlayment exposed to the sun's intense UV rays will degrade. Interwoven felt interlayment meeting No. 30 ASTM D226 Type II or No. 30 ASTM D4869 Type IV roofing felt does act as an additional barrier to snow and rain infiltration, but it

works with the system, not as a stand-alone item. Rot felt will also wick unwanted moisture up into the roof system (See *Photo 1*). In the same nasty vein, Ralph the Rotfelter likes to interlay cedar shingles with felt; this practice is not recommended by the CSSB. Interlay shakes, yes; shingles, no.

*Photo 7 – There are excessive fasteners on this application. Note the split on the top left product due to excessive fastener application.*

*High-pressure pneumatic tools can make it tempting to add in extra fasteners, but excessive fasteners will inhibit dimensional change, causing splitting and/or distortion of the shake or shingle.*



*Photo 6 – Fastener issues causing roof failure.*





Photo 8 – Far too many fasteners on this application.

### Izzy the Iceman

Izzy's a busy guy. With six jobs on the go, he wants a way to make everything watertight so he can bounce his crew from jobsite to jobsite, thus simultaneously juggling many projects on the go. His "solution" is to cover all his roofing decks with an ice dam barrier-type membrane, making it impervious to weather while all the jobs are in progress. This may prove good for crew assignment efficiency, but it is a moisture-barrier practice that wreaks havoc on cedar roofs. Cedar shakes and shingles need to breathe, and a nonpermeable membrane will cause the shakes or shingles to overheat and trap moisture behind the cedar shakes or shingles, thus harming the roofing system's integrity. Some examples of nonpermeable membrane issues are seen in Photos 2, 3, 4, and 5.

### Freddie the Fastener Failure

Fastener mistakes are classic cases of horror shows that could easily be prevented. There are a host of incorrect fasteners being used in the marketplace today; following building code specification details and asking the trade association for guidance will avoid many problems down the road. The worst-case scenario is where the fastener



Photo 9 – A corroded fastener that will cause roof issues.



Photo 10 – Incorrect fastener application – nailing into air and missing the sheathing boards. The holding power of these fasteners is nil.



corrodes a few years after installation, and the wood roofing product gets blamed because the fasteners have failed. Freddie has struck again. For examples of fastener issues, refer to *Photos 6, 7, 8, 9, and 10*.

The market is currently flooded with substandard, non-code-compliant fasteners. A quality cedar roof should last for decades, and it relies upon quality fasteners to work. Freddie the Fastener Failure invented the lie, "It's faulty wood," to avoid the true issue. One must use the correct fastener at the start to ensure the fasteners will last as long as the roofing material.

Current fastener specifications for cedar roofing are:

- Nails must be stainless steel Type 316 in locations within 15 miles of saltwater.
- For locations outside the saltwater zone, on untreated products, nails must be stainless steel, Type 304, Type 316, or hot-dipped galvanized with a coating weight of ASTM A153 Class D (1.0 oz/ft<sup>2</sup>).
- Both preservative-treated and fire-retardant-treated cedar-roofing

## CEDAR SHAKE AND SHINGLE BUREAU

The Cedar Shake and Shingle Bureau is a nonprofit trade association founded in 1915. Celebrating its 100th anniversary in 2015, the organization works hard to promote correct installation practices. A team of knowledgeable district managers—Tony Bonura, Tony Hyatt, and Peter Parmenter—is available to provide technical and grading assistance. Together, they offer over 100 years of combined experience in the roofing, siding, and building products industries.

materials, per building code, require Type 316 stainless steel nails.

Stainless steel nails offer the highest degree of corrosion resistance. Some nail manufacturers offer nails specifically for wood shake or shingle roof (and sidewall) application. Contact the nail manufacturer for further information to ensure the fasteners comply with listed requirements and are correct for your application. Do not

use electro-galvanized fasteners. The CSSB prefers the use of nails as a fastener choice.

### Uma the Undecided

Uma doesn't know what she's doing. Her customer asked for a tailored look on his roof, and she installed cartoned sidewall products because they were square on all sides. Sure, the product is tailored, but it's a sidewall material and does not meet building code for roofing installations.

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*Photo 11 – This photo shows an improper application. Some of the issues we see here are excessive flat-grain, off-grade material, lack of keyways, and uneven courses.*

*Photo 12 – Rot felting: Ice dam barrier-type product was used for interlayment. Keyway issues and off-grade product are seen here (note excessive flat grain, sapwood, and the knot in near butt end in second course from eave.)*

On a related note, Uma is likely someone who'd install roofing-bundled shingles on a wall and then complain to the manufacturer that her customer wanted perfectly even keyways. Number One Grade Certigrade® roofing shingles are top-quality, gorgeous products that can be used on sidewall applications; however, if they are not trimmed on the edges when they are applied to the sidewall, they will not look the same as a true rebuttet and rejointed sidewall product.

Uma believes in getting roofs done quickly for her customer. But because she isn't very educated on various product types and quality, she ends up installing non-code-compliant, unlabelled, uninspected material full of flat grain. This results



*Photo 13 – Buckling due to improper keyway spacing.*

*Photo 14 – Buckling due to improper keyway spacing.*



in installations as seen in *Photos 11* and *12*. Again, the CSSB makes it easy to learn with this informative brochure about product quality: <http://www.cedarbureau.org/green-products/supporting-documents/product-specification-sheets.asp>.

### **Keith the Keywayman**

The CSSB's installation guide provides correct keyway spacing guidance for both roofing and sidewall products. The International Residential Code states "wood shakes or shingles shall be installed according to this chapter and the manufacturer's installation instructions." It is indeed amazing to see examples of projects gone awry due to keyway issues (see *Photos 13* and *14*); the information is readily





Photo 15 – Courtesy Western Wood Products. Photo by John Spaulding.

available, and all the contractor needs to do is access, call, or email the CSSB. With cedar being a natural product, moisture entering and leaving the shake or shingle will cause expansion and contraction; proper keyway spacing accommodates this natural phenomenon.

### CONCLUSION

Installing cedar shakes and shingles is a true craftsman’s art. Cedar shakes and shingles make beautiful roofs and sidewalls. The CSSB salutes all the roofing contractors who install cedar roofs properly and with the correct attention to detail. A quality product is only as good as the quality of installation. Quality contractors stay informed and pursue continuing education; they ensure they are aware of the latest in accessory product developments and how they relate and, in some cases, don’t relate

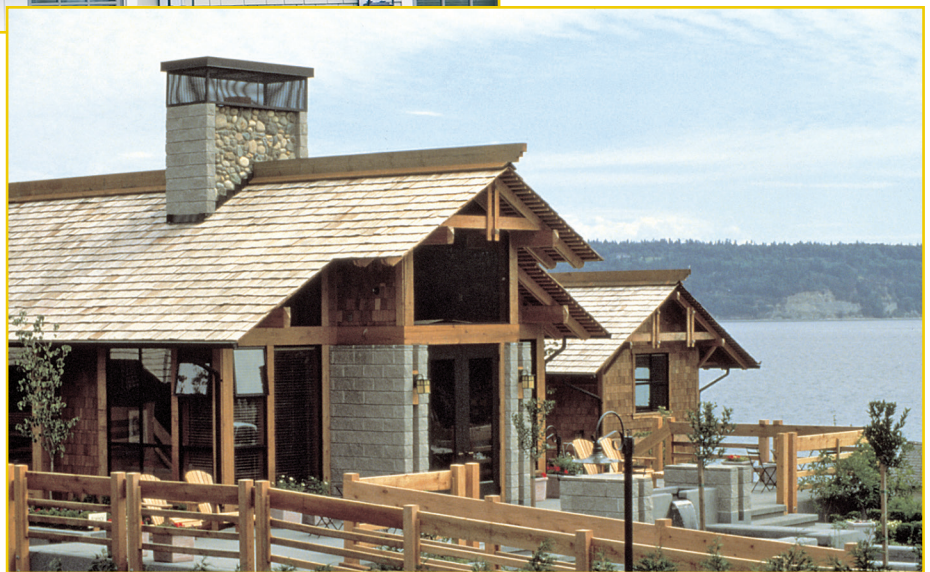


Photo 16 – Architect: Gaylord Granger, Libby O’Brien-Smith Architects. Photo by Eduardo Calderon.

# Missing Something? Have you read **RCI Items** lately?

Check your e-mail inbox\* around the 20th of each month.

\*Make sure RCI has your current e-mail address. From the RCI home page (rci-online.org), click on the “Member Login” link on the right. To log onto your member account for the first time, click “Create Account” in order to create a user name and password. Do not create a new account, as members already have existing membership records. Under “Personal,” make sure you have not marked “exclude e-mail.” **Now relax...it’s coming soon.**





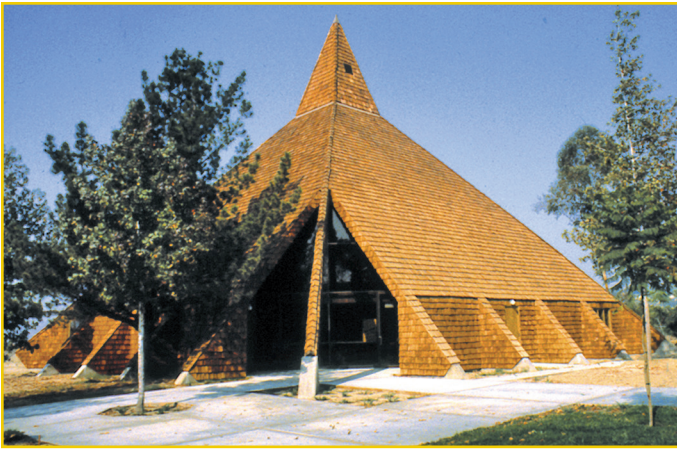


Photo 17 – Architect: Arnold Scribner & Associates. Photo by Erven Jourdan.


to cedar roof installation. Quality roofing contractors will also ask for technical assistance when needed.

The spooky cast mentioned in this article is a reminder of the dangers of installation complacency. At the CCSB, we dream of perfect installations, using correct accessory products and installation methods. We have visions of the world being filled with satisfied home and business owners, where every job is done right the first time. It's an ambitious dream. But it is possible.

Roof consultants: please contact our district managers if you have technical questions. Emphasize to your clients that they should not accept “but I’ve always done it this way”

as a plausible defense, reason, or explanation. Point to the facts and use the CSSB’s informative literature to help with your next project. Homeowners, architects, builders, and consultants all appreciate a job done right. See Photos 15, 16, and 17 for examples of beautiful craftsmanship.

Jobs done right provide reassurance and free up time to specify positive new

jobs as opposed to chasing the guilty parties during a nightmare situation. Avoid the horror show and get the facts. Encourage education. And sleep better at night. 

#### FOOTNOTES

1. Always consult your local building code official and building envelope specialist for regulations applicable to the specific project’s jurisdiction. The information herein is not meant to supersede local building code. Also, please note: The terms “he” and “she” are used to imply all genders in each section for purposes of this article. Names used herein do

not represent any particular person, and resemblance to any specific individual is not intentional and is purely coincidental.

2. The only manufacturers allowed to use the Certi-label™ name on their products’ labels are CSSB members. The Certi-label™ is the purchaser’s assurance that the manufacturer adheres to a third-party inspection program as well as inspections from the CSSB’s Cedar Quality Auditor.

*All photos in this article are courtesy of the Cedar Shake and Shingle Bureau unless otherwise noted.*



Lynne Christensen

*CSSB Director of Operations Lynne Christensen has over 20 years’ experience in the cedar shake and shingle industry. She started working in the industry as a mailroom clerk at a private cedar mill and began her association career in 1998. This article is a result of the CSSB team’s collaborative work. More information is available at [www.cedarbureau.org](http://www.cedarbureau.org).*

## Largest Roofing Contracting Firms

*Engineering News-Record* has released its ranking, by revenue volume, of the top 20 roofing firms in the U.S. They are, from the largest down, followed by their 2014 revenue in millions of dollars:

- |  |  |
|--|--|
| 1. Centimark Corp., \$455.5                    | 11. Douglass Colony Group, \$40.9          |
| 2. Baker Roofing Co., \$184.7                  | 12. Best Contracting Services Inc., \$39.2 |
| 3. Nations Roof, \$122.0                       | 13. King of Texas Roofing Co. LP, \$39.0   |
| 4. Kalreuth Roofing & Sheet Metal Inc., \$96.8 | 14. Orndorff & Spaid Inc., \$30.3          |
| 5. Birdair Corp., \$67.0                       | 15. John J. Campbell Roofing, \$29.0       |
| 6. Latite Roofing and Sheet Metals LLC, \$56.8 | 16. Flynn, \$27.1                          |
| 7. Schreiber Corp., \$55.4                     | 17. Allsouth Subcontractors, \$25.4        |
| 8. Holland Roofing, \$54.4                     | 18. Wayne’s Roofing Inc., \$24.9           |
| 9. The Bulldog Group Inc., \$42.9              | 19. Roofing Solutions, \$24.5              |
| 10. KPost Co., \$42.7                          | 20. Western Construction Group, \$24.5     |

– ENR