

A Study of Asphalt Composition Roofing Defects

By; Jim Turner, CRI

Owner / Inspector

Jim Turner Building Inspections & Consulting

Upland, CA.

When contemplating the variety of technical information available for an article on asphalt composition roofing, I realized that the subject matter is not, well, very sexy. As with most technical subjects the manner in which the information is delivered can sometimes be dry and rather boring which restricts the ingestion of the information and the intent of the lesson. So I thought I would offer a different angle.

Our story begins in March of 2001. While performing an inspection on a property in the Northern Orange County area of Southern California, I came across the worst example of re-roofing that I have seen in 15 years as a roofer / roofing consultant and 11 years as a home inspector. The findings illustrate the importance of a physical inspection and the repercussions when the permit process is not properly followed.

The subject structure was a single family residence built in the mid 1960's with an approximately 5:12 pitch roof deck equipped with a dimensional asphalt composition shingle application that was installed within the 1 month period prior to the home inspection. When I arrived, my first impression was that it appeared to be a well cared for property. I usually rely on my "curb feelers" to give me some sense of what an inspection is going to be like. Unfortunately on this day they failed me. The inspection proceeded uneventfully until I climbed on the roof. It was then that I realized that something was terribly wrong.



As part of my usual preliminary interview with the buyer's Realtor and the homeowner, I discovered that the roof had been replaced a month before the property was put on the market. At first glance, after climbing the ladder to the front roof deck, the roof materials appeared to have been installed in a professional manner. However, once I started walking the deck, and especially after cresting the ridge and viewing the rear roof deck, it became apparent that my initial impressions were wrong.

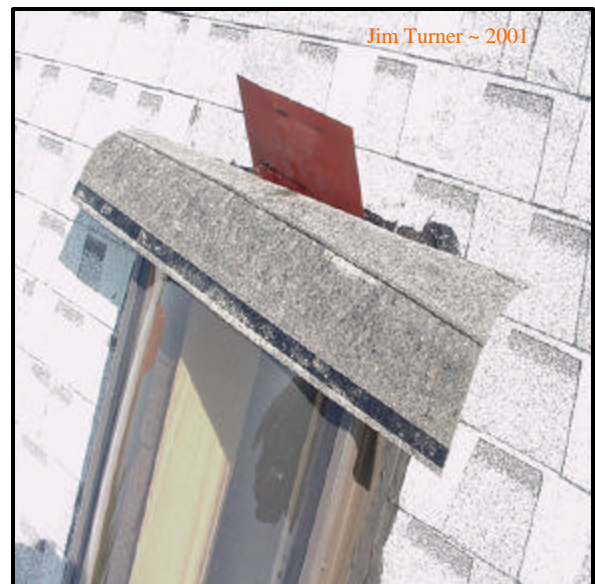


When walking the roof, I noticed that the deck was exceptionally "bouncy". Now, I'm not what you would call a featherweight, but the roof deck should not react like a trampoline regardless of a person's size. The deck sheathing was literally slapping the roof rafters throughout the roof. Upon additional examination of the attic and garage I discovered that the roof sheathing was nailed in the corners only. The metal valleys from the previous wood shake roof had not been removed and the sheathing was laid on top of them, again without any fasteners. My suspicions were beginning to rise that this roof may not have been inspected by the local building department.

The rear portion of the roof revealed even more surprises. From the ridge I noticed that all of the plumbing penetration flashings were improperly installed over the shingles and sealed with roofing cement at the edges. The chimney counter flashings were installed in a similar manner along with nails driven directly through the step flashings and into the shingles.



The rear roof deck also contained several skylights. Here is where the installation conditions became *very* interesting. The skylights were installed as an addition during the re-roof and were not an original component of the structure. I noticed a curious anomaly where a shingle was laid on the roof at the top of each skylight. After lifting one of the shingles, it became obvious that the installer intended the shingle to act as an impromptu flashing component.



Of course the skylights were not secured to any available framing or the roof deck. The installer had cut holes into the roof deck, placed the skylights on the shingles and sealed them in place with roofing cement. But the real surprise came after a closer examination of the skylights, where I discovered that the skylight openings were 6 inches narrower on each side than the skylights' inside dimensions and were not provided with a support frame. They could literally be lifted off the roof deck.



My first stop after leaving the roof was to the interior of the dwelling to further interview the homeowner. She disclosed that a permit was posted at the front of the structure during the entire re-roof process. However, she could not recall an inspector ever coming to the house. After sharing my findings with the seller, the buyer and the buyer's Realtor, I recommended that the homeowner contact the roofing contractor of record, the roofing material manufacturer and the local building official for a detailed and comprehensive evaluation of this installation.

Approximately one week later I received a call from the buyer's Realtor. She was at the subject property along with a representative from the roofing material manufacturer, the local building official and the building inspector assigned to this job. The agent said that the three of them were on the roof and she wanted me to hear what they were saying. As she held up the phone I could hear a very heated discussion between the building official and the inspector. The building official was asking the inspector if he bothered to climb on the roof to examine the installation. The inspector admitted to performing a "drive-by" inspection during the sheathing process and that he was not called for either the partial or final inspections. The building official then said, "You can go." to which the inspector replied, "Okay, I'll be at the office." The building official then exclaimed, "Good, while you're there, you can clean out your desk. You're fired!" The roof material manufacturer's representative told the building official that obviously his company could not warrant this installation.

The roofing contractor of record did not attend the on-site inquiry. He explained to the homeowner via telephone that the roof was installed according to the manufacturer's installation requirements and according to building codes. He also explained that roofers in his jurisdiction, the city of Los Angeles, are self-permitting and that he could sign off on his own work. Believe it or not that last statement is true, *IF* he was installing a roof within the jurisdiction of the city of Los Angeles. But this time he was out of that jurisdiction.

About a month later, I saw the buyer's Realtor at another inspection. She explained that the roofing material manufacturer was willing to cover the replacement cost of new roofing materials for the dwelling and that the building official contacted the roofing contractor's bonding insurance provider and convinced them into covering the labor costs for the re-roof replacement. This included a complete stripping of the existing roof to the original spaced sheathing, install proper framing for the skylights, re-sheathing and applying new dimensional asphalt composition shingles along with properly installed flashings. Of course all of this with proper permits and the building official insisted on performed all of the inspections himself.

After further discussions with the building official I discovered that he personally filed a formal complaint with the state against the roofing contractor of record, who apparently had several other complaints currently on file and that the bonding insurance company was attempting to recover their loses through litigation against the roofing contractor. In the end, the sale of the home was completed, the seller did not have to pay for the correction of the re-roof and the buyer was able to move in with sleep with confidence regarding their roof. As far as the evidence of mold and rodent droppings that I found in the forced-air system's return air compartment, well that's another story.