



# DEALING WITH DECK AREA LEAKS



By Charles Antis

**Let's be honest; decks built over** dwelling areas are an architectural design nightmare. Waterproofing contractors will tell you that the most difficult problems they experience are leaks resulting from decks built over lower-level dwelling or garage areas. These leaks are difficult to diagnose because there is commonly more than one source of moisture entry, and troubleshooting the leaks can become quite complicated.

Of the more than 300 managed properties my company services, more than half have second-story patio decks. Most of these decks are built over bedrooms, living areas or garages. All of our properties with this design scenario experienced leaks during California's recent record-setting storm season.

One common misconception about such leaks is that they originate from failure of the decking membrane. In fact, membrane failure ranks fourth on the list of sources of moisture intrusion. Having repaired thousands of deck area leaks, I've learned that the source of such leaks is usually one of the following, in order of probability:

**1: Thresholds**



Decks have an access door, which is generally a sliding door on an aluminum frame. These frames are built much like a picture frame and commonly fail at the lower mitered corner joints. Repair requires temporarily dismantling the door, reinforcing the

failing joints and improving drainage of the threshold system.

**2: Wall flashing**



Hose bibs, electrical outlets, light fixtures and windows adjacent to the deck are the source of many deck area leaks. Even a thimbleful of water penetration at these places can show up on the ceiling below. While urethane caulking can help remedy wall leaks, it is sometimes necessary to rebuild the poorly-flashed walls. In the case of stucco walls, they may have to be coated with elastomeric coatings.

**3: Base-metal, perimeter-flashing**



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Decking must be separated from perimeter walls using metal flashing. Where this flashing meets door-frames or other transitions is a common place for leaks. As with wall penetration leaks, leaks around flashing may require reconstruction or elastomeric coating to remedy the situation.

**4: Decking membrane failure**



When a deck is failing, it is usually quite evident. Failure can be caused by nail heads penetrating the deck surface, large splits in the membrane, or delamination (separation of the laminated layers of the decking material) at the perimeter metal flashing. When a decking system fails, the entire decking system must be replaced. Patching is not an effective solution for aesthetic and performance reasons. When replacing the deck, a fully adhered system (such as urethane decking or fiberglass/acrylic) per-

forms better than a “slip-sheet” system, in which paper or polyester sheeting separates the membrane and decking material. In an association with deck area leaks in multiple homes, I recommend completing the decking replacement on the entire complex at one time. Spot replacement may result in inconsistent finished quality and a much higher price per square foot.

When troubleshooting decking area failure, an experienced repair technician can usually diagnose the problem by visual inspection. All the possible sources listed above are generally visible if a system is failing. When such an inspection is insufficient, water testing will always yield results. The shortcoming of water testing is that it can only identify one source per sequence of testing, and deck area leaks commonly originate from more than one source. However, after repairing the first source identified during testing, additional water testing can determine whether additional sources remain.

Dealing with deck area leaking takes patience, as repair is often a process of elimination and may require return visits. On the other hand, if you assume that a new decking membrane is the answer, you might end up with a pretty new deck and the same ceiling stain in the next storm. If you really want to eliminate deck area leaks, take the time to make sure the job is done right.

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Charles Antis is the president of Antis Roofing and Waterproofing. He also currently serves on the Community Leadership Training Committee for the Orange County Chapter of Community Associations Institute.



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