

Providing a sleek look with minimal obstruction and view restriction to lower levels, cantilevered balcony construction has been a popular feature with housing developers in America's Sunbelt states for the past 25 years. Supported from the structure's interior, they have been ideally suited to

an unobstructed highway for water, particularly with gapped decking surfaces. Special attention should be paid to this vulnerable area. Other areas that associations should pay particular attention to are:

» **Balcony slope:** The slope should be at least

CANTILEVERED BALCONIES – KEEP AN EYE ON THEM

provide outdoor living in multi-family developments where space is typically at a premium.

The benefits of these balcony designs have been offset in later years by repair and maintenance needs, which can be complicated and expensive. Details that are important to the durability of this integral flooring component were often overlooked at the time of original design and construction. These flaws, combined with many years of inadequate maintenance, have resulted in many balconies needing repair today.

Solid waterproofing is the most typical finish on cantilevered balcony floors. In some cases, the finished floor can be gapped decking, which is not an ideal surface, as it drains water directly onto the wood support members. If gapped decking is preferred, it's important that the wood joists below have a waterproofing membrane on top to protect them from unavoidable water drainage. Failure to install appropriate waterproofing will result in trapped moisture between joists and at the joist/decking connection. These areas create an ideal environment for the growth of fungal decay.

The cantilevered balcony has no support at the outboard end. The continuation of the wood joists into the structure interior is the formula that makes the system possible. This continuous penetration of a wood member into the building interior can also be

¼" tall and slope a foot away from the building structure so water flows away.

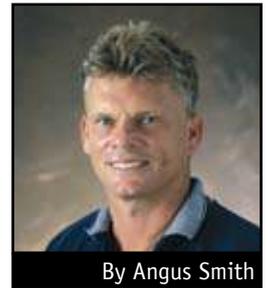
» **Floor surface:** Check for cracks, fractures, delamination, etc. Flaws should be corrected as soon as possible. These defects will allow water to penetrate wood subfloor, which will lead to an ongoing cycle of wet wood expanding, waterproofing fractures expanding and ultimately balcony decay and failure.

» **Floor to wall metal flashing:** This should be a continuous piece of 90-degree profiled metal that accommodates termination of wall cladding two inches above the balcony floor. It provides a moisture exit and diversion away from the building for primary and secondary wall drainage planes. It also reinforces the waterproofing system where it's most vulnerable.

» **Drip edge flashing:** This spans the outside floor perimeter, and it should be a continuous piece of 90-degree metal with a kick edge on the bottom to divert water away from the structure. This flashing reinforces the edge of the balcony and provides an appropriate termination for the waterproofing system.

» **Pan flashing:** This should be installed under doors/sliders that access the balcony. They need to be incorporated correctly into the balcony flashing/waterproofing components. There should be at least two inches from door to balcony floor to avoid an obvious water intrusion scenario.

Corrosion, gaps and holes are tell-tale signs of flashing problems and should be addressed quickly when detected.



By Angus Smith



Conventional balcony design with outboard edge supported by posts and beams

» **Railings:** Post penetrations into subfloor are common points of failure that allow water penetration. Proper flashing and maintenance at these locations should be a high priority. Railing structures in general are very vulnerable to decay and can often lead to moisture/decay spreading to the sub floor.

Composite- and decay-resistant material should be incorporated into balcony and railing repair/replacement as much as possible.

- » **Plants:** Plants are possibly the biggest single contributing factor to balcony decay in arid climates. They should be avoided if possible; if not, keep plant containers elevated to accommodate airflow between pots and balcony surface. Exercise care to avoid over-watering potted plants.
- » **Storage:** Any items stored long term on balconies will contribute to debris collection and disrupt water runoff. These factors will create trapped moisture and quickly lead to decay.
- » **Outdoor carpet:** Carpet is absolutely not appropriate on outdoor balconies. It will quickly trap moisture between carpet and balcony surface. Decay will ensue.
- » **Cleaning:** Balcony surfaces should be cleaned at least annually. TSP (trisodium phosphate) is an appropriate cleaning agent for this purpose and can be purchased at most home-improvement stores. TSP will minimize mold and mildew growth.

Associations should consult with a balcony expert and implement a maintenance/repair schedule that is appropriate for their balconies. Newsletters informing residents of appropriate balcony care would be a great first step to longevity.

Maintenance is important to the protection of all types of balconies, but it is of particular importance to cantilevered balconies. Replacement of decayed components on conventional post and beam structures are easier and less expensive than their cantilevered counterparts. Because the cantilevered wood joist is an important feature of the attached structure's interior subfloor system, correction of wood decay problems become more challenging. Should complete replacement of these joists be necessary, it would mean demolition of a substantial area of the unit's interior. This would result in considerable expense to the association and inconvenience to the resident. Balcony repair specialists have developed effective techniques that can avoid this outcome if

decay is not severe. However, if association maintenance is inadequate, severe decay and worst-case-scenario repairs will be likely.

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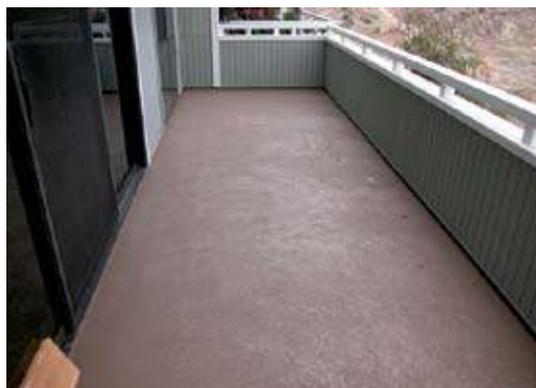
Severe decay in cantilevered floor joists



Reconstructed cantilevered balcony



Balcony with a gapped decking finished floor



Balcony with a solid waterproofed finished floor