

THREE COMMON DECK COLLAPSE FACTORS AND HOW TO AVOID THEM

By Kim Smallwood, Duradek

While balconies and decks are the most popular areas of many residences for pure, leisurely enjoyment, these desirable residential features can be a dangerous liability if proper waterproofing details are overlooked at the point of installation by contractors who are not waterproofing professionals. The sad truth is that most deck collapse tragedies occur on decks and balconies that were built to current building code standards and were evaluated and approved by city and municipal inspectors.

The following information is in no way intended to alarm you and is in no way intended to serve as legal advice. This information is presented to highlight some common deck liability issues on rental properties so that you are fully prepared to protect your interests and those of your tenants in the case of any unforeseen deck safety issues.

In British Columbia (based on reported incidents), we have far fewer deck collapse issues than in many other parts of North America. Perhaps that is due to the fact that we have a greater-than-average need to be prepared for moisture management on our exterior structures and an excellent pool of skilled workers in the construction trade. Now in the peak summer months we can expect to hear in the media of what seems to be an annual surge of deck collapse tragedies.

So what causes these collapses? I am no building sciences forensic expert, but after several years of studying deck collapse stories, I've learned that there are a few common denominators that seem to accompany the majority of these incidents.

- Most decks or balconies that have collapsed were built to code at the time of construction and were evaluated by inspectors who deemed them safe and permitted their use.
- The majority of deck collapses tend to revolve around very large gatherings of people on the decks.
- Many deck or balcony collapse incidents occur when the deck ledger board separates from the main structure of the building.

The most common point of vulnerability in deck collapses is where the deck meets the building.

Here are some things to consider on each of these contributing factors:

CONSTRUCTED TO MEET BUILDING CODE

Most decks were inspected at the time of construction to pass current building code, but building codes evolve constantly. Further, decks and balconies are constantly exposed to the elements and therefore will deteriorate faster than most other elements of a residential structure. If your deck or balcony was inspected 10-20 years ago, that is up to two decades of accumulated weather degradation. Wood decks left untreated without adequate waterproofing are vulnerable to wood rot and decay that can spread quickly within the structure and not necessarily be visible to the naked eye. Concrete decks that do not receive re-coating with a waterproofing product can develop cracks where water will invade and subsequent expand-contract cycles will further compromise the structure.

Recommendation: *If you are at all in doubt about the integrity of your deck structure, or your last deck inspection by a qualified professional was done over 20 years ago, have a professional decking contractor or inspector visit your deck for an assessment. But more importantly, be sure to maintain the waterproofing on your deck and keep maintenance records of this activity.*

DECK LOAD CAPACITY

Since many deck collapse incidents occur when a very large number of people have occupied the deck, I find it quite surprising that maximum load capacity on decks is not addressed more vocally. Do you know what the load capacity on your deck or balcony is? Do your tenants know? Is it reasonable for your tenants to pack 30 people on a 10' x 24' deck? In multi-residential buildings that include elevators, there is a highly visible load capacity posted, with both weight and number of occupant limits, but there seems to be no public standard for decks or balconies.

Recommendation: *Find out what the load capacity of the deck or balcony of your property will allow and communicate that to your tenants. It is a common*

reaction for injured parties to point the finger at the building owner as the person responsible for any injuries resulting from deck collapse, no matter how poor their judgement might have been regarding the number of occupants crammed into the restricted space of a deck or balcony.



The wood rotted from water infiltration caused by inadequate waterproofing.

DECK PULLING AWAY FROM THE LEDGER BOARD

The most common point of vulnerability in deck collapses is where the deck meets the building. Either the ledger board that attaches the deck to the house pulls away, or the deck pulls away from the ledger board. While sometimes it is inadequate material used (e.g., nails instead of appropriate hardware and fasteners), most times the original construction was completed properly, but the wood was subsequently weakened from water infiltration that allowed fasteners to pull out. Once again, inadequate waterproofing is the culprit in the decks becoming vulnerable to collapse.

Recommendation: *Stay on top of your deck waterproofing! Be sure to perform the re-coating or re-sealing as required to keep the structure protected from the elements. In order to reduce the time, cost, and inconvenience required to waterproof your property's decks and/or balconies properly, you may choose to use a long-lasting waterproofing product like a vinyl deck membrane.*

The use of a heat-welded PVC membrane gives you the longest lasting waterproof performance that requires no maintenance. After a one-time installation, vinyl decking will perform its waterproofing for decades with absolutely no recoating ever required (only a seasonal cleaning is recommended to maintain an attractive appearance).

Vinyl membrane deck waterproofing originated in BC's Okanagan in 1974 by pioneer brand Duradek™. While there are many vinyl options on the market today, Duradek remains the most performance-proven vinyl product approved for use as a roofing membrane over living space, backed up by over 40 years history and having gone through several warranty cycles.



These balconies are covered in a vinyl membrane: attractive, low maintenance, and safe.

PROFESSIONAL DECK WATERPROOFING

For over 40 years, Duradek PVC membranes and installation techniques have provided reliable waterproof protection to protect the integrity of the deck and building envelope. Duradek is a CAN/CGSB and ICC approved pedestrian traffic roofing membrane and is installed only by trained professionals for warranted waterproof protection.

If you want to learn more about the advantages of Duradek™ vinyl membranes and Durarail™ aluminum railings, talk to a trained and authorized Duradek installer for a free estimate.
www.duradek.com