

Home Building & Beyond: Avoiding Common Callback Issues



Introduction

The Home Building & Beyond series has been launched by the Home Construction Regulatory Authority (HCRA) to support our licensees by profiling technical case studies, sharing frontline construction learnings and tips to prevent common issues backed by building science, while supporting the adoption of emerging building trends. For additional resources to support your building journey, visit our [Technical Research & Education Resource Hub](#).

This resource was developed through the technical expertise and deep building science backgrounds of Dr. John Straube from RDH Building Science and Gord Cooke of Building Knowledge Canada. It is a summary of information presented at Building Knowledge Canada's 2025 Spring Training Camp by Dr. Straube.

The HCRA's intent is to increase access to educational resources for its licensees – and this document raises awareness of common callback issues experienced by new home builders, their causes, and how to prevent them.

The HCRA licenses and regulates the people and companies who build and sell new homes in Ontario. In addition to licensing, the HCRA protects new home buyers by providing educational resources to support informed decision-making. We also work to strengthen the homebuilding industry by helping builders stay current with technical knowledge, emerging construction trends and new regulatory requirements.

Summary

As many organizations across the industry strive to identify and address common callback issues, the consistent theme for recurring 'Top 10' issues all seem to be linked to moisture issues. Moisture is still a great challenge in the homebuilding industry, leading to issues with leaks, mold, rot, and cracks.

This resource highlights common moisture-related issues, from ice dams to basement moisture, and the proven building science practices for you to consider adopting into your frontline construction methods.



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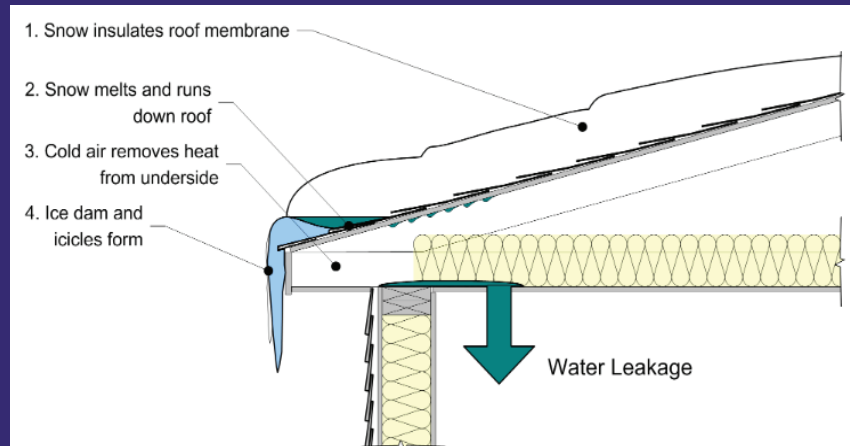
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ICE DAMS

Ice Dam Conditions

- Lots of snow (typically >6", often 18")
- Temperatures below approximately 4°C, can allow ice to form before the water drains
- Really cold temperatures (below approximately -10°C) keep the snow from melting



Most common causes of ice dams are:

- Insufficient insulation or thermal bridging
- Air leaking into the space below the roof membrane
- A source of heat in roof such as poorly insulated duct, hot water piping, etc.
- A big difference in snow thickness, especially when combined with solar radiation

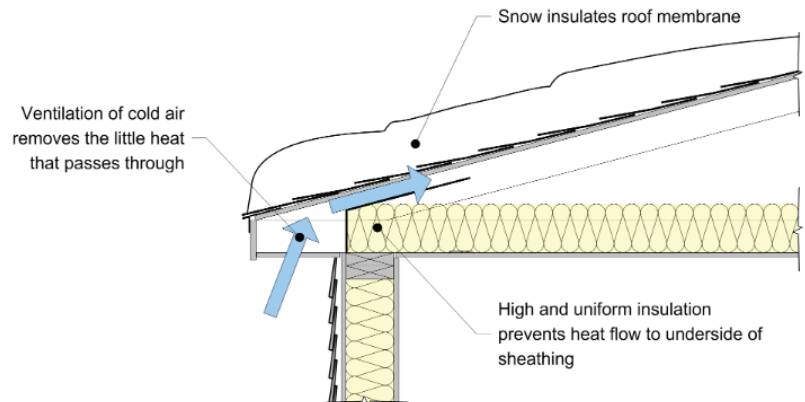


Ice dam issues are made worse by no or poor ventilation.

RECOMMENDATIONS TO PREVENT ICE DAMS

High levels of uninterrupted insulation at eaves

- With good insulation, little ventilation is needed.
- Baffles in each rafter bay to ensure no wind washing of insulation
- Insulation all the way to exterior edge of the top plate



Ventilation

- Almost equal area of openings at ridge and soffit
- Code ventilation level (1:300) is generally sufficient
- Ventilation works if there's good construction and good design



Ice & Water Shield

- Waterproof self-sealing membranes at the eave
- Underlayments are recommended over whole roof



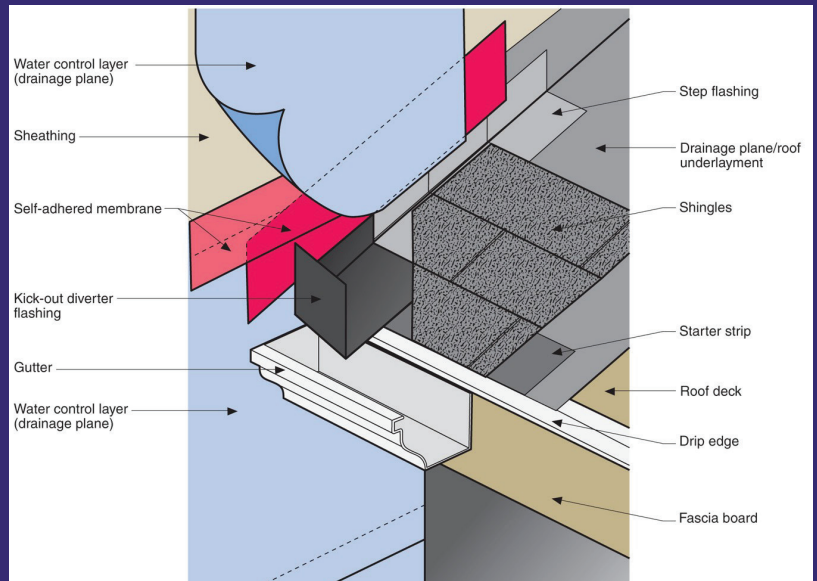
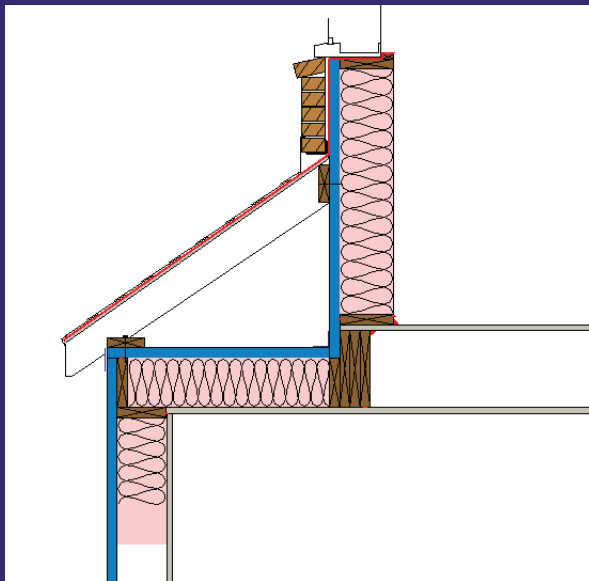
ROOF-TO-WALL LEAKS

Cladding interruptions such as roofs, dormers, bay windows, and shed roofs present big risks for roof-to-wall leakage.



Solution

Lapped WRB to flashings and kickout flashings to ensure water is drained away from the cladding and out onto the roof.



BALCONY LEAKS

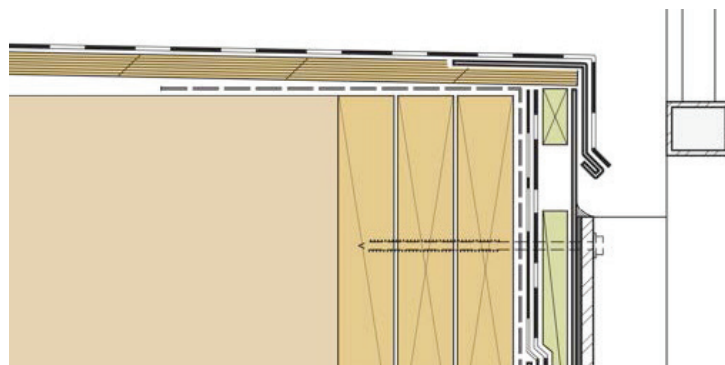
We are likely to see **even more balconies in the future** due to more multi-unit housing. Balconies over conditioned space present even greater risk.

Problems

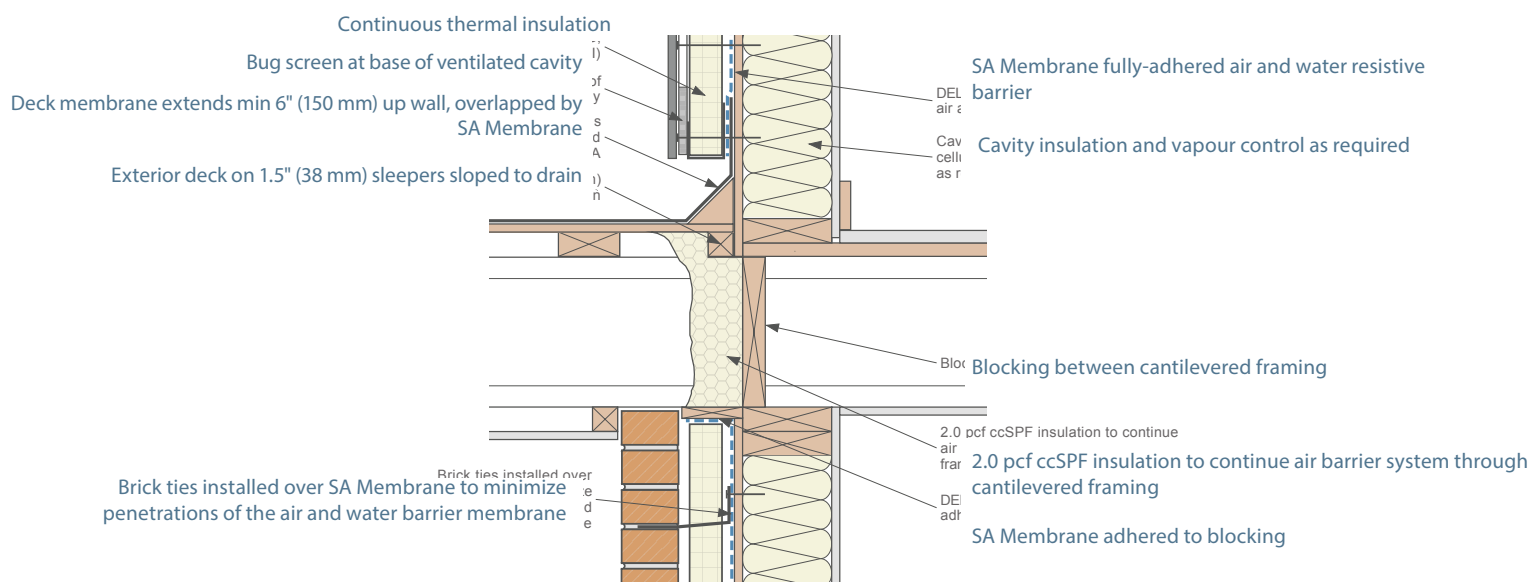
- Accumulation of snow
- Occupant activities can create water issues
- Wear and tear on sealants, membranes and flashings

Recommendations

- Membrane over wood
- Slope to exterior
- Face-mounting railings
- Vent the soffits



Cantilevered balcony



NEW CLADDING

New claddings such as direct applied “tiles”, flat composite plastic, aluminum plate (not drained/vented)

- Many are smooth and have limited texture
- Increases risk of staining
- Increases demand on plumbness and flatness
- Installation errors of new methods

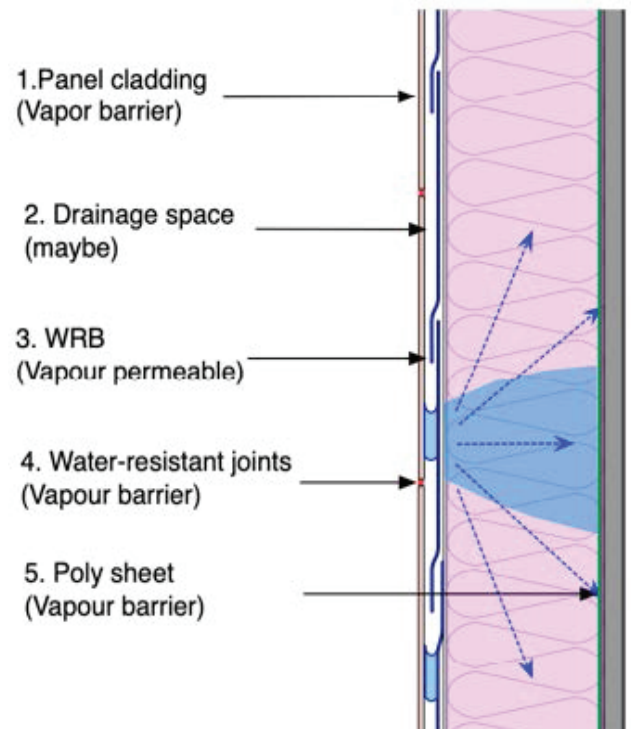


Common Characteristics that Present Challenges:

- Usually highly vapour resistant (vapour barrier)
- Water cannot ventilate or wick out fast enough
- Drainage is good, but not always enough

Recommendations

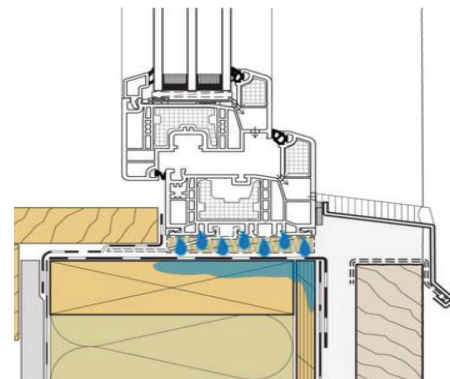
- Do more research before selection
- Design a well drained and ventilated system
- Design every connection and condition on project
- Ensure installers follow instructions



WINDOW LEAKS

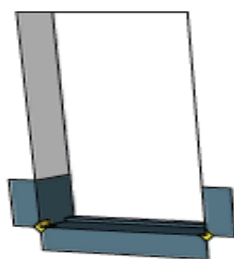
Problem

- Rain penetration at windows
- Joint between window and wall leaks
- Windows also leak, especially over time
- Leaks lead to hidden rot

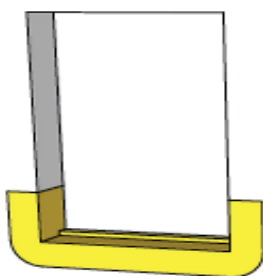


Recommendations

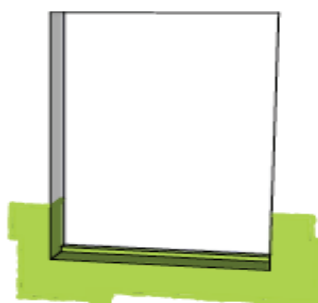
Sub-sill flashings as part of a commitment to a thorough window installation practice



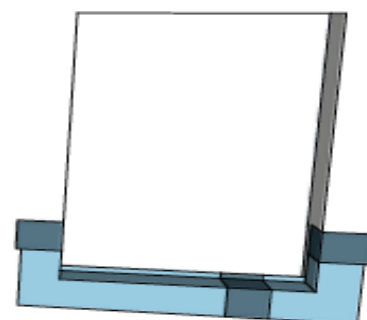
Self-adhered membrane



Formable self-adhered membrane

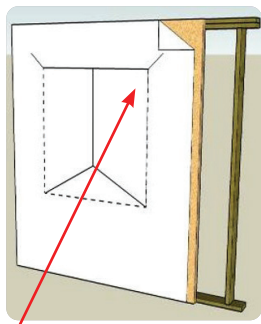


Liquid applied membrane

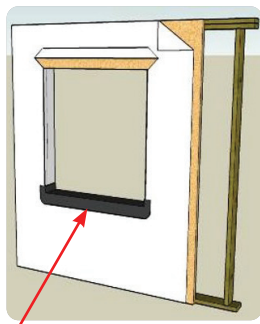


Pre-formed flashing system

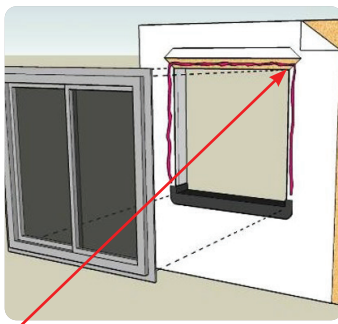
Full Window Install



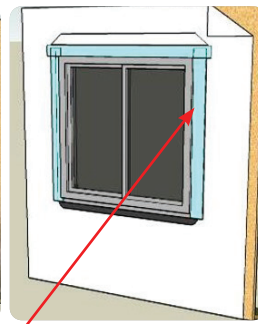
1. Prepare the opening. Cut the WRB to allow lapping above the head of the window



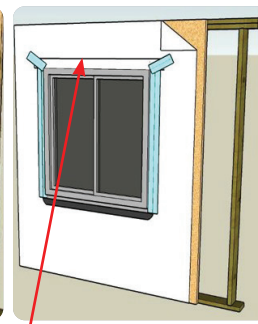
2. Protect the sill. Slope the sill and install a sub-sill flashing to direct water down and out.



3. Properly secure and seal the window. Follow the approved fastener location and caulk window at the top and sides.



4. Tape sides and head. Install approved tapes or flashings at the sides and then the head.



5. Lap the WRB over the head. Lap the WRB over the head flashing and tape to complete the install.

BASEMENT MOISTURE

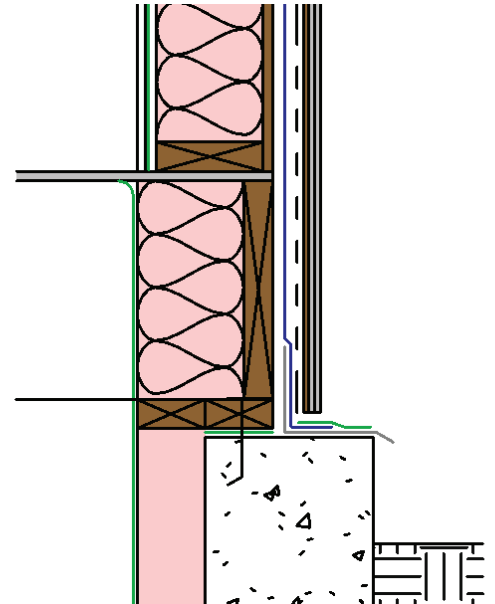
Water Penetration is Still a Common Claim:

- Below grade leaks
- Above grade leaks
- Condensation from air leakage



Recommendations

- Drainage is required
- Top termination is necessary
- Best practice is drainage membrane over damp-proofing



OVERALL LEARNINGS

- Most callback issues are **avoidable**
- Mistakes happen, but in general, problems can be avoided by good design & continuous inspection of construction quality
- Ongoing learning and education for staff and trades is critical in the face of more complicated building designs
- Building Science will help you understand the “why” and the right way to do it

Further Learning & Resources

Support your learning journey by visiting the HCRA’s [Technical Research & Education Resource Hub](#), and bookmark the [Trainings & Offerings section](#) to stay up to date on new opportunities.

Attend [Building Knowledge Canada’s Spring Training Camp](#) to expand your skills and connect with industry experts.





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