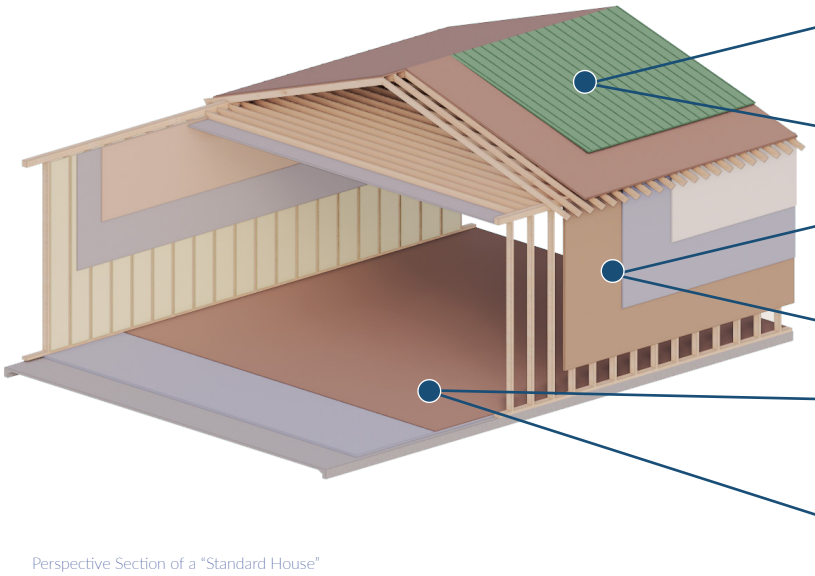
WATER INTRUSION

UF Florida Institute for Built Environment Resilience
UNIVERSITY of FLORIDA

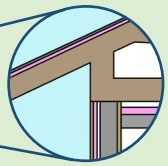
What is Water Intrusion?

Water intrusion refers to the **seeping** of water into a house or the unintentional **accumulation** of water within the house. It is important to note, that **flooding and water intrusion are seperate** but can cause similar damage. The more common water intrusion however, can occur at various points in the house due to **aging, ignorance, or improper construction**. While, water intrusion is one of the most costly damage claims, it is also one of the **easiest to remedy**. This brief guide will talk about some of the ways in which water intrusion can impact the common house, the materials which are affected the most, and some quick tips on preventing costly water intrusion insurance claims.

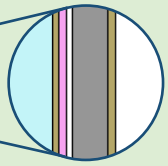


Perspective Section of a "Standard House"

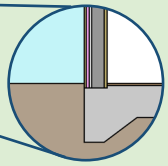
Parts of the Whole



Roof & Ceiling System
- Structure (Wood, Steel Frame)
- Sheathing (Wooden Panels)
- Covering (Asphault, Metal)
- Insulation (Panels, Fiberglass)



Wall System
-External Wall Covering (Stucco, Shingles)
- Structure (Wood, Steel Frame)
- Sheathing (Wooden Panels)
- Insulation (Panels, Fiberglass)
- Internal Wall Covering (Drywall)



Floor & Foundation System
- Foundation (Concrete and Rebar)
- Subfloor (Plywood)
- Flooring (Tile, Wood, Carpet)

Risks and Damages

Wood (Plywood, Engineered)
- Untreated wood around water begins to rot
- Continual exposure leads to warping and weakening

Interior (Drywall, Tiles, Carpet)
- Minimal water leaks lead to large repair jobs
- Continual exposure leads to mold growth and warping

Steel and Metal
- Uncoated steel around water begins to rust
- Contiual exposure compromises the structural strength of steel, leading to breaks

Masonry
- Decently resistant if water doesn't percolate into material
- Continual exposure leads to cracking and weakening

Insulation
- Requires water restrictive barrier to protect it
- Continual exposure leads to mold growth

Concrete (With Rebar)
- Percolating water can rust untreated interior structure
- Continual exposure leads to cracking and structural failure

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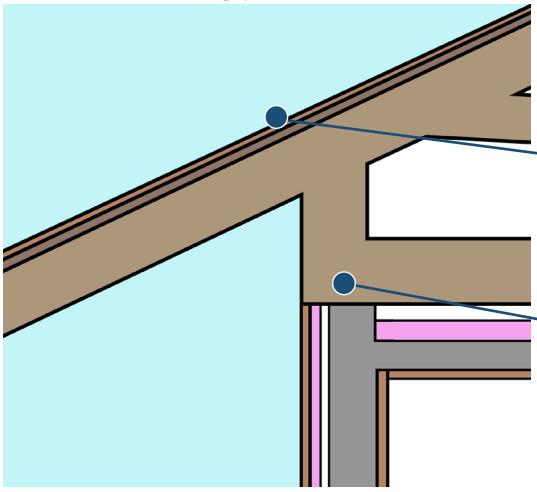
Detail Section of Roof and Ceiling System

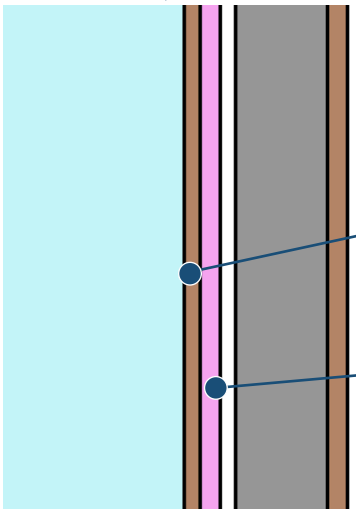


Roof and Ceiling

Keep an eye on the **condition of the roof**. Gaps in the shingles can lead to easy points for water to **seap into the roof structure and the ceiling**. Over time, wooden roof systems will rot and weaken, requiring expensive repairs.

Proper sealing of where the roof meets the interior ceiling is important. Fluids travelling along this wall could **slip into the interior**, damaging insulation and drywall, leading to **warped ceilings and leaks**.

Detail Section of Wall System

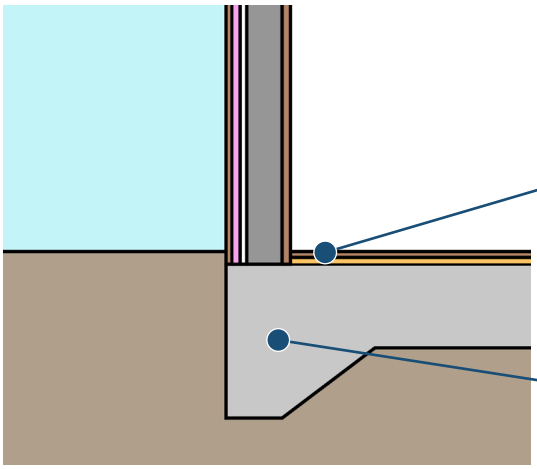


Walls

External wall facades should be meant to withstand **consistent interaction with water**. Materials such as **stucco**, **plaster**, **concrete**, or **treated wood** prevent water from percolating into the wall system.

If water were to make it past the external wall covering, make sure that the **vapor barrier** is intact. This layer of plastic or foil **protects the insulation and wall structure** (wood, CMU, etc.) from water damage. These vapor barriers last an **average of 15 years**.

Detail Section of Floor and Foundation System



Wood
Concrete
Covering/Finish
Metal
Sheathing
Subfloor
Insulation

Floor and Foundation

Water damage to flooring can be a nuisance but, water **damage to subflooring can cost much more**. Making sure the subfloor has been **sealed with a water resistant coat** or a **membrane** prevents **warping of the floor structure**.

One of the most **costly repairs** comes from water intrusion on the **foundation**. Not only can the water **crack the foundation**, it can also displace sediment around the foundation, causing it to **shift and settle**. A water restrictive barrier or membrane is recommended.