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Session 2: Building Envelope & Structural Systems

Richmond W. Wall, Senior Vice President / Consulting Director,
Atlanta, GA



Components of a building envelope

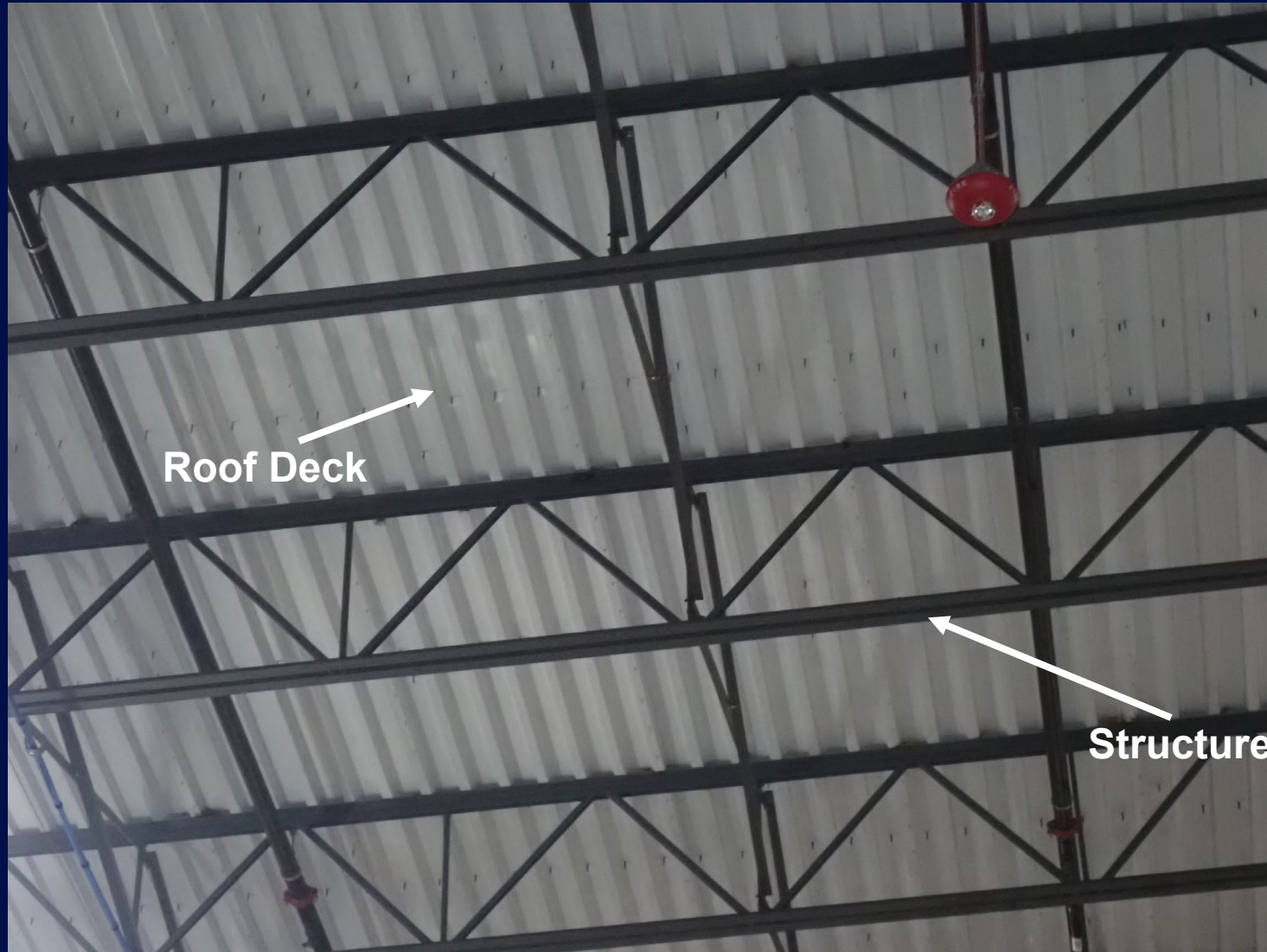
- Roof
- Exterior Walls / Cladding
- Opening Protection

Components of a Roof

Components of a roof:

- Roof structure: This is the structural framing that supports the roof system. The roof structure is typically concrete, steel or wood.
- Roof Deck: The roof deck sits on the roof structure and spans the distance between the structural members. The roof decks like the structure are typically concrete, steel or wood.
- Roof Covering: The roof covering is the weatherproof system that sits on the top of the roof deck. There are many types of roof coverings such as shingles, modified bitumen, rubber membrane, metal panels as well as others.

Components of a Roof



Roof Coverings



Interaction of the Roof with Building Systems

- The roof is an integral part of the building envelope and internal systems:
 - The roof system is the first line of defense against the elements that will damage other building systems.
 - The roof system also shelters insulates the building from hot and cold.
- The roof is also a critical component of the drainage and evacuation of water from a building:
 - Water infiltration is extremely damaging to a building.
 - It is critical to keep water from reaching building components or contents.
 - It is also critical to evacuate water away from the foundation of the building where it can cause subsidence and other damage to the foundation of the building. The roof is an important component in evacuating water away from the building.

Typical Points of Roof Failure

Roofs generally fail from one of two issues:

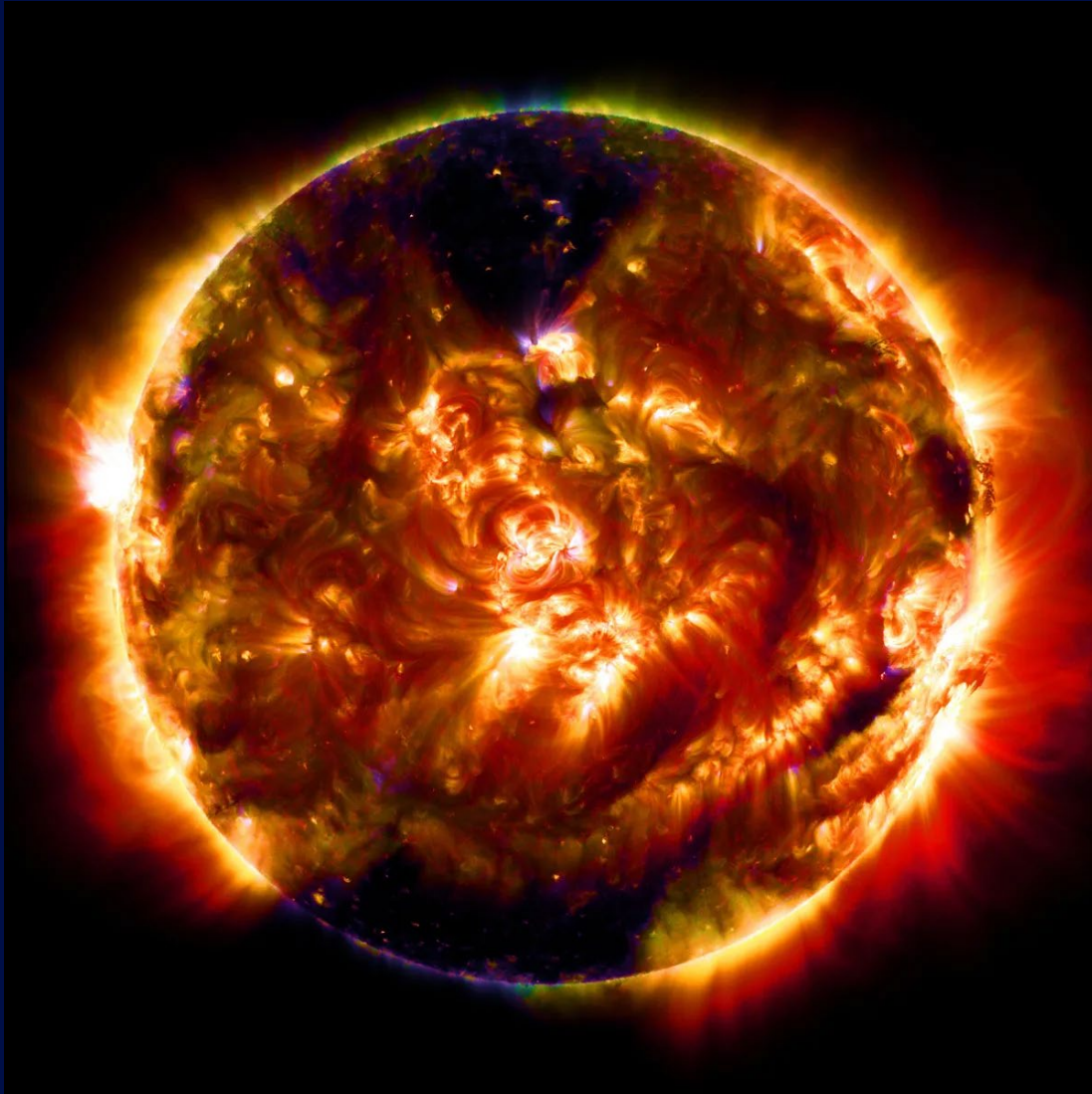
Water Infiltration

- Keeping water and weather out is the most important function of a roof.
- When water penetrates a roof, degradation is not far behind. Insulation degrades, adhesives fail, roof decks rot / rust, etc.
- Water infiltration normally begins at penetrations, flashings, edges of the roof and breaches in the membrane.

CAT Related Losses

- These types of losses typically happen when the design strength of the roof is exceeded by wind, hail, snow loading, etc.

Primary Causes of Roof Degradation and How to Stop It



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Primary Causes of Roof Degradation and How to Stop It



Roofing Failures



Signs of Degradation of Roofing





Roof Maintenance Program

Join us for a 4-part educational series designed to help Members reduce property risk through proactive roof care. Marsh will deliver expert guidance on maintenance fundamentals, building envelope systems, and facility risk management strategies. The series concludes with KCAMP sharing an inside look at their successful roof maintenance program.

Session 1: Foundations of Roof Maintenance & Risk Awareness

April 14, 2026 | Time: 11:00 AM – 12:00 PM ET

Session 2: Building Envelope & Structural Systems

May 5, 2026 | Time: 11:00 AM – 12:00 PM ET

Session 3: Facility Risk Management & Loss Control

June 9, 2026 | Time: 11:00 AM – 12:00 PM ET

Session 4: KCAMP's Journey to Effective Roof Maintenance

June 23, 2026 | Time: 11:00 AM – 12:00 PM ET

These sessions are available for CRL Property Members and their County Members



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