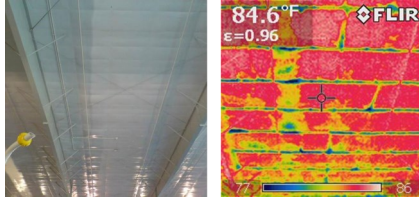


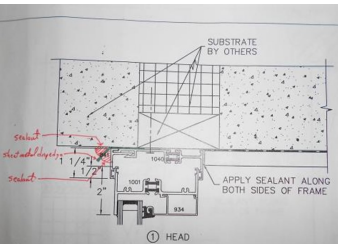
NEWS FROM: The Region's One-stop Professional Claims Support Engineers

Design Deficiencies or Construction Defects?

Construction defects can result from deficiencies in the product itself, how something is designed, installed, operated or maintained. Damages observed immediately (burst water pipe), or appearing over time (slowly shifting foundation) require knowledgeable experts in the field to uncover the true nature of the failure.



Water Infiltration in Pool Area Ceiling



Window Design Deficiency

Design deficiencies, such as failure of architects or engineers may be found in the construction documents of the building or system. Flawed roof designs that result in water penetration, poor drainage or inadequate structural support are typical examples.

Material deficiencies such as failure due to defective or damaged building materials are also common. Examples include inferior products that do not last as long as intended or window frames bent during transit that do not allow for proper installation, leading to water intrusion.

Construction deficiencies such as failure due to poor quality workmanship, are commonly observed in the claims industry and can result in a range of damages. Photos shown here illustrate improper installation of several building components.



Water Infiltration at Window



Missing Flashing at HVAC Unit

There are also **operational & maintenance deficiencies** such as failure of the owner to properly use or maintain the structure or system. Not maintaining an exterior sealant may cause it to break down and allow water intrusion. Keeping HVAC system temperature too low through the winter, causing pipes to freeze is another example.



Rotting Due to Water Intrusion

Emerging technologies, changing standards and a shortage of skilled labor can present increased potential for construction defect exposure. The costs and challenges associated with construction defects can change and rapidly increase. The causes and consequences of a construction defect can seem like a moving target with new materials and techniques entering the market, varying codes and other requirements, plus a lack of skilled labor.

The most common types of defects are:

- **Water intrusion** through the building envelope (leaks in roofs, around windows, or through the siding)
- **Improper soil conditions** (inadequate preparation of soil to prevent movement)
- **Defective manufacturing**
- **Improper or inadequate design** of structures and component compatibility integration.



Foam Plugging Window Weep

Statutes of Repose for construction vary from state to state. Currently it is 10 years in Nebraska and North Dakota; 15 years in Iowa, and only 6 years in Colorado.

KPE is uniquely qualified over other forensic firms because as Engineers and Architects who design facilities, we are familiar with the construction process from start to finish.



Wind Damage to Roof from Improper Membrane Termination



Roof Damage caused by Improper Attic Ventilation

We know where to look, what to look at, how to research the designs, shop drawings and contracts. Not only will KPE find the problem, we will recommend the solution, and if needed, we can design the solution too. This is something our competitors do not offer. We are a one-stop solution for construction defect investigation and resolution.

For more information, please visit our website www.kpe-inv.com.