Commercial Property Insights

The Importance of Adequate Roof Drainage

Effective roof drainage is vital for maintaining the structural integrity of a commercial building. Drainage systems play a pivotal role in efficiently eliminating water and debris from a roof, as well as directing the water away from the building. Despite their importance, proper upkeep of these systems is often ignored.

Inadequate maintenance of these systems can cause various types of property damage. This article provides insight into the significance of maintaining adequate roof drainage and outlines steps to prevent avoidable damage to these systems.

Why Is Roof Drainage Important?

Effective roof drainage is crucial for redirecting rainwater and melted snow away from a building, which prevents water from accumulating on, in or around the building and causing structural problems.

Poor drainage may lead to leaks, foundation damage, roof rot and mold growth, all of which threaten structural integrity. Therefore, implementing efficient roof drainage solutions is essential for ensuring the enduring stability and functionality of any building.

Types of Roof Drainage Systems

The initial step in safeguarding your building against water damage involves understanding its roof drainage system. The following are some roof drainage systems commercial property owners should be aware of:

- **Gutters and downspouts**—These guide water away from roofs and buildings, shielding the exterior and the foundation from potential harm while preventing water from running directly down the building's sides to the foundation.
- **Internal drains**—These drains channel water from the roof into pipes within the building, typically discharging into a storm sewer system. Internal drains are normally used on flat roofs.
- **Roof scuppers**—These are normally positioned around a building's perimeter on a flat or low-sloped roof, facilitating water drainage into downspouts. They are usually adjacent to metal boxes that act as flashing, directing water to flow through the wall.

For these drainage systems to work, business owners must make sure they are inspected and well maintained.

Common Roof Drainage Issues

The roof endures more exposure to environmental elements than any other part of a building. Such elements could hinder the effectiveness of roof drainage systems by being clogged by debris, leaves and branches and ice, especially after a severe storm. If downspouts are clogged, both flat and slanted roofs can experience the presence of standing water. An inch of standing water can add 5 pounds of weight per square foot on a roof, adding up to thousands of pounds of extra weight on a roof, potentially compromising structural integrity.

Even on a slanted roof, if drains or gutters are obstructed, standing water can accumulate and may lead to issues in the foundation or basement. In addition, standing water compromises roofing materials like shingles and can penetrate underneath the flashing and sealants, causing leaks. This is especially important in freezing temperatures, as the freeze-thaw cycle can induce cracking, allowing water to enter the interior of the building.

Maintenance Best Practices

To ensure the proper operation of roof drainage systems, business owners should follow these maintenance tips:

- Conduct inspections and clean the roof drainage system during the spring and fall seasons. If trees are overhanging the roof, inspections should be performed more frequently. Additionally, inspect the roof after any roof-related contractor services. Professional gutter maintenance services are available to aid business owners.
- Trim trees to prevent branches from rubbing against the roof and gutters. Trimming trees can also help prevent leaves and debris from clogging drains and gutters.
- Run water through the downspouts to ensure there are no clogs.
- Remove shingle granules from the gutters as they can alter the gutter's slope when accumulated, obstructing the natural flow of water due to gravity.
- Check for persistent standing water in gutters and rectify any blockages causing this condition. If no blockages are present but standing water persists, it indicates that the gutter is not correctly sloped toward the downspout.
- Inspect all drainage systems for leaks and ensure they are fixed. Drainage systems should be inspected and deemed operational following severe weather events.
- Check gutters to make sure they are properly sealed; leaks can cause water to drain down the side of the building and potentially enter the building.
- Ensure downspouts are far enough away when discharging water that the water is not pooling near the building. Business owners should make sure the downspouts are being used to prevent water accumulation near the building's perimeter.
- Consider installing larger gutters when replacing these systems to accommodate greater water flow.
- Use noncombustible metal gutters and downspouts in areas that may be exposed to wildfires. They must always free from debris that could potentially ignite.
- Use gutter straps on drainage systems that are specifically engineered to withstand strong winds if located in an area exposed to hurricanes or high winds.

All buildings need their roof drainage systems inspected regularly and will need to be updated eventually.

Conclusion

By understanding a roof's drainage exposures, business owners can be proactive in maintaining their roofs and be able to select the system that will work more efficiently for their building when it is time to update. Overall, business owners can maintain the structural integrity of their buildings by following these best practices for drainage systems.

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