Prevent Water Damage Through Proper Roof Drain Maintenance

Roof drainage systems are an important part of all roof systems, but they are often overlooked when it comes to proper maintenance and care. In fact, they may be considered the "unsung heroes" of roof systems because of their key role in effectively removing water and small debris from the roof. Conversely, they also can be the culprit for many types of damage if they are not properly maintained. This checklist will help business owners take important steps to prevent avoidable damage.

MAINTENANCE

1. ***Inspect and clean the roof drainage system*** at least twice a year, ideally during the spring and fall. This includes all gutters, interior drains, and scuppers. *See example 1.*
2. ***Keep trees trimmed and away from the roof*** to prevent branches from rubbing against the roof and leaves from accumulating and clogging drainage system. *See example 2.*
3. ***Remove loose objects and accumulated debris***—including anything left by contractors—from the roof that could end up in the drainage system. *See example 3.*

Example 1. Scupper and downspout clogged with leaves.

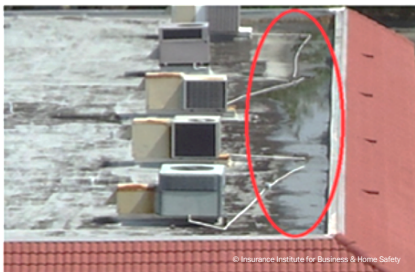
Example 2. Poor tree maintenance allowing leaves and twigs to clog roof drains.

Example 3. Interior roof drain blocked by leaves and a piece of wood left behind by a contractor.

4. ***Check under and around all roof-mounted equipment***, satellite dishes, antennas, and photovoltaic arrays (solar panels) for debris that could cause water flow disruption of the drainage system or ponding.
5. ***Clean gutters*** - For steep-sloped roofs with asphalt shingles and low-sloped roofs with modified bitumen or built-up roofs, remove roof cover granules and pea gravel from gutters as they can accumulate, alter the slope of the gutter, and impede the gravitational flow of water.
6. ***Repair cracks*** - Check for and repair cracks around roof drains.
7. ***After severe weather, check all drainage systems*** for leaks and ensure they are properly secured and operating.

STANDING WATER

8. ***Gutters*** - Check for long-term standing water in gutters and correct any blockages that may be the cause. If there are no blockages but standing water still occurs, ensure gutter is properly sloped to the downspout.
9. ***Roof Slope*** - For low-sloped roofs, ensure the slope of the roof cover system and the insulation boards divert water to internal drains when present or to the edge of the roof. Long-term standing water is an indication of improper slope. *See example 4.*
10. ***HVAC*** - Ensure all roof-mounted air conditioning drain lines funnel water to a drain. *See example 4.*
11. ***Building Perimeter*** - Ensure downspouts funnel water away from the building and do not allow water to accumulate near the building's perimeter.



Example 4. Improperly sloped insulations boards and HVAC drain lines not funneled to drains contribute to long-term standing water.

REPLACEMENT

12. ***When re-roofing***, ensure that all drains, scuppers, and gutters are returned to their original operating conditions.
13. ***When replacing gutters***, consider larger-sized gutters which allow for greater flow.

REGIONAL CONSIDERATIONS

14. ***If you are exposed to wildfire***, use noncombustible metal gutters and downspouts.
15. ***If located in a hurricane-prone region***, ensure gutters are anchored by gutter straps designed to resist high winds.

CONCLUSION

Following these basic preventive maintenance procedures will help ensure that roof drainage systems will work properly and protect businesses from extreme weather events throughout the year. Additionally, taking care of the gutters will prolong the life of the roof and reduce the potential for roof damage. Visit DisasterSafety.org for additional guidance on protecting your commercial property.