



BENTONROOFING

CASE STUDY



The Commercial Roofing Maintenance Guide:

A Reference for Property Managers & Business Owners

The Costs of Avoiding Roof Maintenance

The cost of commercial roof maintenance may cause some business owners and property managers to put it off until a later day. However, consider the following figures detailing the potential costs of avoiding roof maintenance:

- One report illustrates that approximately 75% of all annual work done on roofs in the United States involves reroofing (2). Some of these reroofing projects could be avoided if roof maintenance services were regularly received.
- Typically, roof maintenance programs cost only a fraction each year of what it would cost to replace an entire commercial roof.
- Roof repairs can cost anywhere between \$4 and \$10 per square foot (1). This can add up quickly if you're repairing a large commercial roof.

Avoiding commercial roof maintenance may seem to help businesses save money in the short term, but the issues stemming from unaddressed roofing problems inevitably lead to more costly problems down the road. Putting off roof maintenance is a short-sighted solution that could lead to premature roof failure. It is also a high-risk decision that could compromise the safety of your employees and visitors.

What Causes Roof Issues?

There are many factors that can contribute to roof instability and premature failure. They include:

- Exposure
- Structural movement
- Biological growth
- Not fixing problems promptly
- Forgetting about maintenance
- Change in the use of the building

Many of these issues are a natural part of exposure to the elements and are largely out of your control as a building manager or business owner. However, you have a great deal of control over how far they are allowed to progress. When you are proactive with roof problem prevention and set aside the time and budget for regular commercial roof maintenance, you can address many of these repairs before they become more serious.



Exposure

Roofing is constantly exposed to the elements. In addition to wear-and-tear caused by extreme weather conditions (such as hail, snow and wind), roofing is also susceptible to damage even when the weather is mild. UV rays from the sun can cause the chemicals within your roofing system to deteriorate. UV rays can damage your roof whether it's made from a single-ply membrane, modified bitumen or metal.

No one can prevent sun rays from damaging rooftops. While you can plant trees to provide shade and protection from the sun, it's unlikely that you'll be able to block 100% of UV rays from coming into contact with your roof.

If you live in an area where harsh sunlight and/or other types of extreme weather are the norm, commercial roof maintenance is very important for keeping your roof in good condition. During regular maintenance appointments, your roofing services provider can check for weather-related issues and make repairs as needed.



Structural Movement

The structure of a building can have a direct impact on the integrity of the building's roof. There are various components that are all considered part of a building's structure, including the foundations, floors, walls and frameworks. Supporting components include plaster, windows, doors and render. All of these help give the building its strength and rigidity.

Unfortunately, the ground on which buildings are constructed is not always still. Ground settlement and movement occur naturally, but the degree to which they affect your structure and rooftop depends a lot on the type of ground you've built on and the frequency and severity of tectonic plate movement in your area.

Structural movement also naturally occurs as materials used in building construction decay and break down over time. If your roof develops a leak prematurely, it could be due in part to the structural movement of your building. It's important to not only repair the issues with your roof but to also repair any major cracks or structural damage to the rest of your building.



Biological Growth

Moss, lichen, algae and other types of biological growth on roofing are more common in some geographical areas than others. Areas with high humidity tend to be affected by moss more than areas with low humidity.

The same moisture that leads to biological growth on rooftops can also weaken and decay the wood within your roofing structure. It can also cause metal to corrode more quickly than it would otherwise. Regardless of the roof system on your building, it is important to be aware of biological growth and the damage it can cause to your roof.



Not Fixing Problems Promptly

This is a highly preventable, but also highly common, reason why roofs fail prematurely. It is easy to put off roofing maintenance. After all, "out of sight, out of mind," right? Unfortunately, becoming complacent about your roof will make it much more likely for minor problems to develop into major problems right under (or more accurately, above) your nose.

Some of the most common commercial roofing issues include surface erosion, standing water, punctures, damaged pitch pans and flashing, shrinkage and blow-offs (from wind uplift). The nice thing about each of these problems is that they can typically be repaired quite easily and inexpensively if the damage is promptly identified and fixed.

On the other hand, small roofing issues have a way of growing into very large problems within just a few months of neglect. It's best practice to schedule commercial roof maintenance services as soon as you notice any potential problems.



Forgetting About Maintenance

You may not intentionally put off roofing maintenance, but it is something that is easy to forget. Many property managers and business owners neglect to schedule roof maintenance appointments until a problem comes up. To prevent big problems that could be fixed or prevented with regular maintenance, some building managers are turning to roof maintenance programs to help them remember.

A roof maintenance program is a comprehensive plan of action that addresses all aspects of roof maintenance, including periodic inspections, a report of the roof's conditions, and repair or maintenance services. Generally, a business owner works with the building manager and a roof repair and maintenance company to develop and implement a roof asset management program. These programs are generally formalized through some type of agreement with a roofing company. Automating this process with software takes away the risks associated with forgetting to schedule regular maintenance appointments.



Change in the Use of the Building

Most commercial building roofs are designed to withstand normal wear-and-tear for a specified period of time. However, if you change the use of your building in a way that adds stress to the roof, you're more likely to experience roof damage and issues that require repairs.

For example, if you decide to grow tomatoes in a building that was not intended for the purpose, you could experience a variety of humidity-related issues. Raising the humidity inside a building can eventually lead to severe condensation issues that negatively impact the integrity of the roof.

Another example of changing the use of a building is a [grocery store](#) that decided to create a garden on its roof. The garden takes up 25,000 square feet on the rooftop and is used to grow approximately 35 varieties of produce. The "green roof" is celebrated for its ingenious use of otherwise unused space, and it's touted for its ability to save energy and regulate the temperature of the grocery store's interior.

While these are all great benefits, it's important to understand that drastically changing the intended use of a building or its rooftop in this way should never be done on a whim. Instead, it's important to consult with a roofing company if you plan to change the use of your building and make sure your roof is reinforced sufficiently to support your goals. Without this important step, you could damage your roof or shorten its stated lifespan.



Why Roof Maintenance Pays Off

If you're wondering whether roof maintenance truly pays off, there are some figures you should study. Roof maintenance will not only save you money in the long run, but can also help you avoid lost time, preventable damage, and potential setbacks to your business operations. Consider the fact that:

- Most long-term warranties offered by roofing companies are contingent on building owners following contractual annual or semi-annual commercial roof inspection and maintenance schedules.
- Roofing industry experts recommend that business or building owners budget at least \$0.05 annually per square foot of roofing for preventative maintenance.
- Economic models show that it's possible to extend the life of a roofing system by as many as 10 years or longer with regular maintenance services.
- Failure to maintain a roof can result in costly damage to the building itself. Rusted metal decking can cost between \$13 and \$15 per square foot to replace. Deteriorated wood decking can potentially cost much more due to the fluctuating cost of lumber.

Our Service and Repair Manager noted that **"the most common thing I see in repairs is when a roof has been neglected and the decking, and in some cases the actual framing is rotted. This can easily double the cost of a new roof."** Another common problem reported by our colleagues in the roofing industry is dirty gutters that leak down the walls or foundations of buildings. This can lead to long-term water damage that could easily be avoided with a simple and inexpensive rain gutter service.



Warehouse Case Study

One recent example of expensive repairs that could easily have been avoided with regular roof maintenance is when a roofing estimator was asked to look at a warehouse roof in Weaverville, NC. The building manager knew there were some leaks but underestimated the damage they could cause. The roofing estimator offered to stop the leak with a repair, then recommended reroofing. Instead, the decision was made to hire someone else to make roofing repairs but not replace the roof.

Unfortunately, not long afterward, a windstorm came through the area and tore off the back corner of the warehouse, and the main power unit was destroyed by water. The warehouse was down for 10 days for repairs and they needed to replace 80% of the roof deck. The decking alone cost over \$100,000 to replace. The cost could have been much lower if the roof had been adequately repaired at the first sign of leaks. Instead, the leaks were allowed to develop until they caused partial roof collapse and significant damage.



Hotel Case Study

In one final illustration of a real-world example of how maintenance can save business owners money, one of our roofing sales representatives performed service repairs on a hotel in Asheville, NC. The building kept developing leaks, and the sales representative recommended re-roofing. Unfortunately, the building manager declined and kept scheduling temporary leak fixes.

One day, the same sales representative was approached by the property management company for the building after discovering multiple leaks after passing rainstorms. The property management company still did not want to pay for re-roofing but asked for additional temporary repairs.

Unfortunately, the roof was in poor condition, with the penetration flashings failing, vegetation growing all over, EPDM bridging from the walls and no scuppers. A replacement was once again recommended, with a quoted cost of \$75,000. The property manager still opted to push off roof replacement and chose instead to pay for \$30,000 leak repairs. One year later, the building developed a massive leak which caused the drywall ceiling to collapse in one of the upstairs suites. Here is what the building manager's final cost could have been, versus the final cost paid due to putting off recommended roof replacement for too long:

Potential Cost

Recommended roof replacement = \$75,000
Total = \$75,000

Actual Cost

Roof repairs = \$30,000
Property damages = \$50,000 - \$60,000
Loss of rentable space (average of \$150 per night for 3 months) = \$13,650
Roof replacement = \$75,000
Total = \$168,680 - \$178,680

Keep in mind that this total doesn't include other losses the hotel may have experienced in damaged reputation and litigation costs.

As illustrated by these examples, upholding a regular roofing maintenance schedule is far preferable for financial reasons than waiting for leaks and other large issues to develop before doing anything.



The Benefits of Partnering With a Roofing Contractor

Building managers and business owners aren't expected to know everything there is to know about roofing problems and maintenance needs. That's why partnering with a roofing contractor can be so beneficial. Here are a few of the benefits such an arrangement can offer:

- Dedicated routine inspections, preventative maintenance and repair services
- More people in your court to help you take care of one of your important assets
- Property documentation benefits (detailed logs of what roofing services are provided, and when)
- Financial benefits from extended roof lifespan (including lower lifetime costs and capital savings)
- Safer operations
- Asset and liability protection

A good contractor can recommend the right services for your roof based on its current condition and remaining lifespan. By following maintenance, repair or replacement recommendations, you can save money in the long run by avoiding roof failure, potential business setbacks, lost time and avoidable damage to your roof and building.



Managing Your Company's Roof

Properly managing your company's roof will not only help you get the most years out of it but will also help you discover problems you wouldn't discover otherwise. It's similar to going to an auto mechanic; the sooner roof issues are discovered, the less likely they are to grow into big problems.



Avoiding Problems: Establishing a Roof Maintenance Program

The main reason for setting up a roof maintenance program is to protect your company's capital investment in a roof. Every responsible business owner and building manager's goal should be to manage the company's roof effectively while minimizing costs. Your roof maintenance program should include routine inspections at least once per quarter, as well as after any extreme weather event.



Deciding on the Right Property Needs

Before you set up your roof maintenance plan, you need to compile as much information about your building and roof as you can so you can determine your specific property needs. To do this, create a file that includes all of the following information:

- Roof drawings, project records, etc.
- Approved roofing supplier product data submissions for new roofing
- Roof plans showing the drains, rooftop equipment, entry doors, etc.
- All reports related to the installation of the roof
- Warranties from the roof manufacturer
- Correspondence records between the architect, roofing subcontractor, engineer, general contractor, etc.
- Inspection reports (filed chronologically)
- Repair reports and photos
- Records of all roof modifications and construction changes
- Record of services to rooftop equipment

Compiling all of this information can take time, but it is important to have it all organized in one place and available when you need it. Once you have these detailed records, you can move forward with the development of your roof maintenance plan.



Setting up a Roof Maintenance Plan

There are a few approaches you can take when setting up your roof maintenance plan. You can have the building or facilities manager create an in-house program, or you can have the building owner enter into an agreement with a roofing contractor. This is a highly recommended option, as it allows the roofing professional to handle the filings and inspections as well as maintenance scheduling. This takes more off the building manager's plate and prevents the challenges that can come from forgetting to schedule roofing maintenance appointments.

There is also the option of having the building manager hire a contractor or consultant to take care of the first two steps and be the liaison between the building manager and the roofing contractor. In this case, the hired consultant or contractor would be responsible for working with the roofing contractor to make sure all maintenance appointments are scheduled and roofing repairs are made promptly as needed.



Finding a Qualified Contractor

While it's important to put a lot of thought into the type of roofing system you want for your building, it's equally important to hire an accredited roofing contractor. Generally, it's best to go with a contractor that is experienced and has a history of success with a variety of roof repair and re-roofing projects.

Unfortunately, there are thousands of roofing contractors listed in local guides and online. Some may not be as qualified as they try to appear. In fact, if you do a quick online search for "roofing installation errors," you'll find more than a million results. Improper roofing installation by inexperienced roofing contractors is a big issue that can cost building owners a lot of money in avoidable repair and replacement costs.

When looking for a professional contractor, familiarize yourself with your state's licensing laws, and make sure any contractor you consider working with has the proper licensure. Unfortunately, building managers or owners who use roofing contractors that are not properly licensed expose themselves to various legal issues.

For the best roofing longevity and stability, it's wise to work with a contractor that has been in business for at least a few years and has developed a good reputation. Make sure the company in question is also bonded and insured. When you hire an experienced and properly licensed contractor, you can have greater peace of mind that your project will be done properly and that your roof will live up to its estimated lifespan.



Conclusion

In conclusion, any building manager or business owner who wants to minimize roofing replacement costs and maximize the lifespan of his or her commercial roof should understand the importance of regular commercial roof maintenance.

Preventative care can address common roof issues such as exposure, structural movement, biological growth, failing or forgetting to schedule maintenance, and changes in the use of the building. Regularly maintaining a roof can help business owners avoid potential business setbacks and lost time, minimize costs and operational disruptions and prevent avoidable damage from occurring.

The benefits of partnering with a roofing contractor include dedicated routine inspections, preventative maintenance and repair, property documentation and financial benefits from an extended roof lifetime. Building managers and business owners can ensure proper roof maintenance by setting up a roof maintenance program with a trusted and experienced roofing contractor.

References:

www.thesnellgroup.com

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