

RESIDENTIAL ROOFING



PART.2

A faint, white line-art outline of a house with a chimney, a dormer, and a skylight, serving as a background for the lower half of the page.

Everything you Need to Know **PRODUCTION**

Roof Build Basics: Shingle

As a roofing professional, it's essential to understand the basic steps of building a roof. Every company has its own additional steps and

approach to roofing depending on location and client, but we will look at a typical shingle roof replacement in this example.

1 Decking

The wooden boards make up the framing of your roof. These boards are what your shingles and other roofing components are installed on. There are two types of wood roof decking: plank decking and sheet decking

2 Drip Edge

Drip edge is metal flashing installed at the roof's edges to keep water away from your fascia and from getting underneath your roofing components. If your roof doesn't have a drip edge, water gets behind your gutters and rots out both your fascia board and roof decking

3 Underlayment

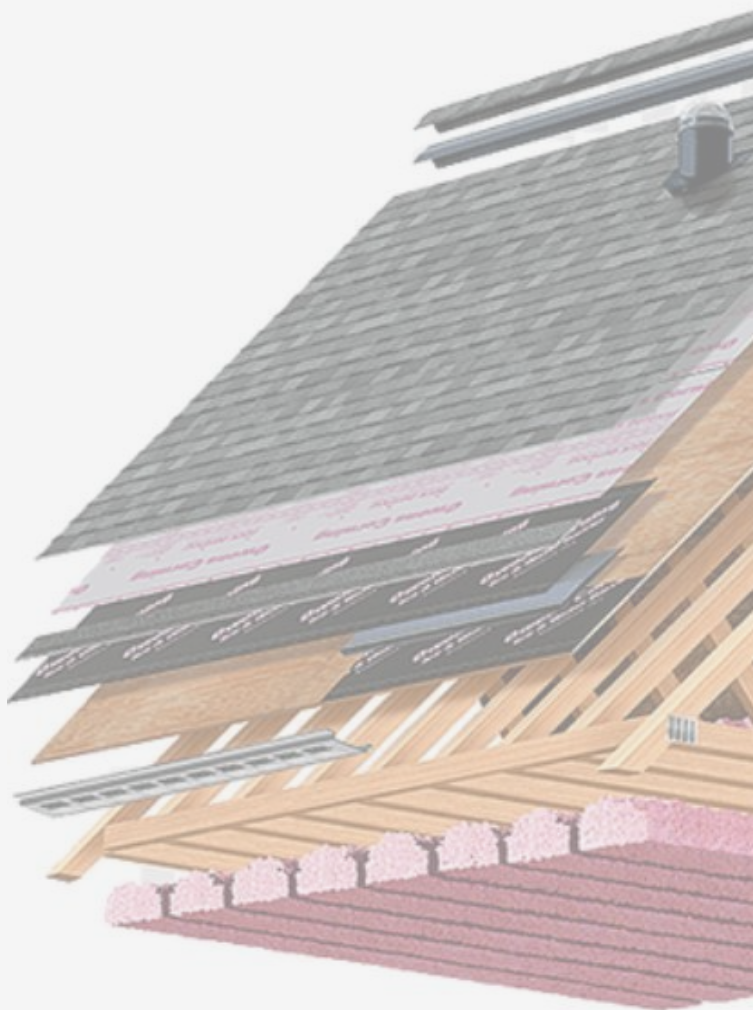
Underlayment lies between the shingles and the roof sheathing, or roof deck, typically either plywood or OSB. It's installed directly on the roof deck and provides a secondary layer of protection from the elements, including rain, snow, and wind.

4 Ice & Water

Ice and water shield is used on eaves to help protect the decking and interior of the home from damage caused by ice dams that may occur due to the freeze/thaw during the winter months.

5 Shingles + Ridge

Ridge cap shingles are like regular shingles in that they use the same material and offer the same look in terms of color. Still, they are different in that they are specially designed to cover the ridges of the roof, which are high-stress areas that need more protection



Roof Build Basics: Solar

Solar panels and the sun's energy can be harnessed to offset your monthly electricity bill. This is because higher bills are correlated with higher fossil fuel use, so switching out could save you money.

1 Evaluate

First, we evaluate your property, roof, and electrical to ensure your home benefits from a solar roof. We document the entire site evaluation.

2 Survey

Next, we complete a site survey to ensure all necessary information is gathered and then we design an optimized, custom system, perfect for your business or home!

3 Permits

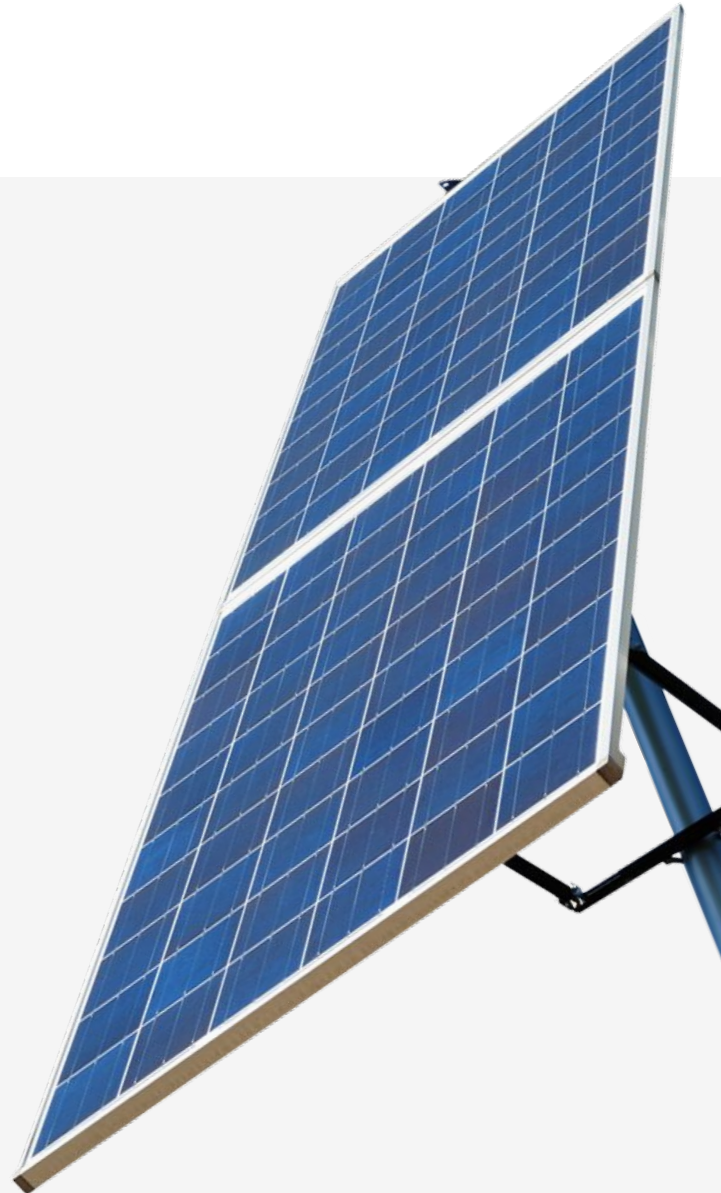
The speedy permits process starts with a quick review. A team of experienced permit officers will check for errors and update regulations as needed before issuing you an approval or denial on your request for solar installation.

4 Install

Now we can install the panels to your home using quality, clean, ethical workmanship practice. You'll start seeing the energy savings in the first month.

5 Maintenance

For best results on your solar panels, it's recommended to give them a mild cleaning. This can be as mild as spraying them with a hose from ground level or having a professional come out and do a deeper cleaning for you.



Our installation Process

Training Worksheet

Every company is different in their roofing approach. During training, take the time to fill out this worksheet with the specific products, systems, and more that your company uses.

What is different about our installation process?

Do we offer warranties?

Do we have Good, Better, and Best systems?

Good

Better

Best

Our installation Process

Training Worksheet

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Installation Process for _____

Installation Process for _____

Installation Process for _____

Notes

Training Worksheet

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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. The overall appearance is that of a clean, unused piece of stationery or notebook paper.

Notes

Training Worksheet

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RESIDENTIAL ROOFING



PART.3

A faint, white line-art illustration of a house with a chimney, a skylight, and a smaller gabled roof section, serving as a background for the lower half of the page.

Everything you Need to Know **ROOFING SERVICES**

Introduction to Roofing Services

A new roof is one of the most significant ticket purchases you have to make. It needs to withstand decades of blazing sun, pounding rains, and

gusting winds while protecting your home from everything nature can throw at it—all while looking good on the street.

Inspections

Roof inspections are vital to perform on any roof job. Giving the customer a thorough inspection and photo documentation builds trust and makes sure everything is addressed in the estimate. Educating the customer helps with upselling them to more extensive repairs or a better roof system.

Estimates

The roofer will write and estimate how much the job costs. The outline includes some or all of the services that will be provided, deadlines for completion, materials needed such as shingles and tarps. Customers can easily compare prices from different vendors before making decisions, so it's important to have your proposal and experience stand out.

Roof Repairs

Repairing the roof will be the most cost-effective way of taking care of most problems homeowners are having. These repairs can extend the life of the roof, until it's time for an eventual full replacement.

Roof Replacements

Roofs are exposed to a lot of external wear and tear throughout each passing year. The sun's harsh rays, snow accumulation from winter storms, or strong winds can all take their toll on the material that protects the home, meaning it's time for a full replacement of the system.

Emergency Services

A roof tarp can provide an extra layer of protection for home's vulnerable after a storm. When properly installed, they prevent rain from soaking through and repairing existing leaks and prevent future damage due to new storms or heavy snowfall.

Siding

Siding is a versatile material that is used to protect the sides of the home from the elements. It does this by adding insulation, water resistance, or fireproofing depending on its type and function in the structure's design.

Gutters

Gutters are essential for protecting homes, foundations, and landscaping. They prevent erosion that can cause flooding in basements or settlement of foundation walls; they also ensure exterior paint isn't damaged by rainwater runoff with staining protection against mold/mildew growth.

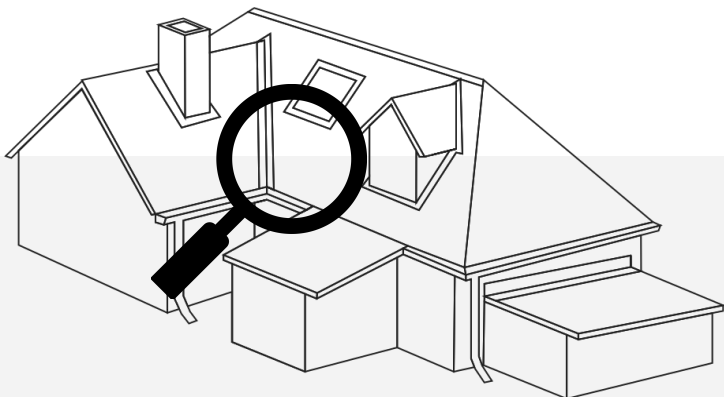
Exteriors

Many roofing companies extend their services to full exteriors and sometimes interior remodeling as well. Additional services may include windows, doors, garage doors, skylights, and even solar.

Roof Inspections

A roof inspection report should be a detailed document that includes photographic evidence of all roof conditions. Advice is provided to our customers on any issues that need repaired in the short term and what the property owner should look out for in the near future.

During the inspection it's important to try to determine the age of the roof, the shape, the current system, and areas of damage outside and in the attic. Checking the interior ceiling of the home for leaks is also a vital step.



A roof inspection report includes:

- Accurate measurements and diagrams of the roof
- Description of the roofing material used on the property
- Photos of roof conditions, pointing out specific damage
- A thorough explanation of the roof conditions observed by a professionally trained crew
- Recommendations on actions to be taken, including repair or replacement

Purpose of a roof inspection report:

- A roof inspection report informs the client about the structural and cosmetic issues related to their roof
- The report recommends the course of action needed to restore a roof or preserve its existing condition - if in good shape
- A roof inspection report includes cost estimates
- The report projects a timeline for the roof replacement or repair

Roof Inspections using Drones

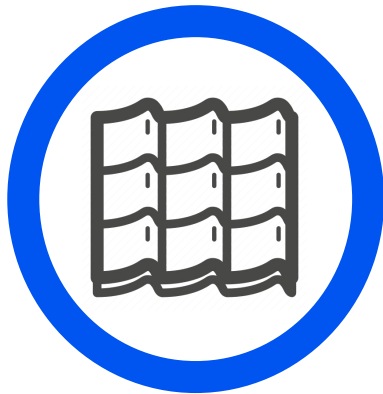
Drones have come a long way in the last ten years. Today, drones are more affordable and more accessible to use than ever before. Drones carry a fantastic payload of HD digital cameras and video hardware, too. Certain types of roof inspection software are compatible with drones.



Performing an Inspection

A roof inspection is the best way to ensure your home's most crucial asset continues functioning correctly. A professional will assess its condition, look for any problems and gauge how long it'll take before water seeps through again.

Inspectors will walk on the roof and look for weakened areas that indicate rot or leaks. The materials used to build your roof will be assessed on when it was constructed and the last replacement and their nature of deterioration.



Roofing Material

The exterior roofing material is what takes the most abuse from the elements. The inspection report describes the material... whether it's ceramic tile, asphalt shingle, slate, cedar shake, etc.

- Are there missing, broken, or poorly aligned shingles?
- Are all parts of the roofing are secured in place?
- Are all seams are well-insulated?
- Is flashing and caulking around sidewalls and chimneys intact and sealed?



Drainage

Over 70% of construction litigation has to do with water leakage and moisture damage. Poor drainage can lead to many costly repairs, including mold removal or an entire re-roofing procedure.

If the drainage is not directing water away from the building correctly, it may also cause problems with its foundation and basement areas.

- Are drain pipes directing the water away from the building's foundation?
- Is there rust, holes, and other signs of wear and tear?
- Is there trash and debris blocking drainpipes and gutters?
- Are drain pipes securely attached to the gutters and the walls?

Continuing Inspections are Important

A homeowner should not just inspect their roof after a storm or if they notice a leak. We want our clients to be more proactive about their roofs health and have inspections done yearly.

Annual inspections are great because we get to identify damage areas sooner and document the roof so if there is damage down the line, we have evidence to report to insurance if necessary.

Performing an Inspection

Home inspectors need to pay close attention to the state of air ducts and dryer vents, as they could become a safety hazard in the future.

If these are not appropriately inspected, an obstruction may occur, which would have been otherwise unknown.



Ventilation

Chimneys, vents, and air ducts are vulnerable components of a roof system, as they penetrate the roofing and insulation materials. If these contact points are not insulated well, the building may be subject to water leaks and poor thermal efficiency.

- Check to see if vents are obstructed and ensure that air flows freely through them
- Ensure that all ventilation structures are fitted with storm caps
- Ensure that the flashing around the protruding structures fits well



Attic

A roofing inspection examines the roof's underside — the attic. Thoroughly inspecting the attic provides a complete picture of the roof's condition. Sometimes, leaks and other damage might not be visible on the exterior but can be identified inside.

- Check for dark spots or swelling on wooden beams, signifying moisture penetration
- If the roof beams are steel, check for rust or bending
- Check for mold or condensation
- Check for signs of rodents, insects, or birds
- Ensure that pipes, ventilation elements, and wiring are well-insulated

Additional Inspection Areas

Gutters and downspouts are essential to the home's drainage system. They have the dual responsibility of directing rainwater from your roof to be absorbed into the soil or help reduce runoff.

They also play an essential role in maintaining integrity for other parts within a structure. These are crucial parts of the roof to inspect to ensure the safety of your home.

Checking for Storm Damage

We want homeowners to understand how essential it is to inspect their roofs after a storm. There are many ways to detect damage even from the ground level that we can educate them on.



Checklist

Identify all hail, storm, or wind damage on the property to support a claim being made on this property.

- Signs of Hail on Elevations
- Paint Chips
- Window Cladding
- Window Screens
- Siding & Siding Type
- Existing Damage on Siding and Property
- Damage to Downspouts and Gutters
- AC Unit Check
- Other Area with Hail Damage with photo documentation to support
- Decking and Decking Damage Documented
- Fence and Additional Property Damage
- Furniture Damage
- Garage Doors
- Broken Glass
- Mailbox Damage

Roofing Inspection

- ✓ Measure Gutter at the top of the ladder with photo
- ✓ Measurement of the soffit with photo
- ✓ Shingle Gauge on the shingle and identify the type of shingle
- ✓ Gutter Fastening Options: Gutter Nails Gutter Screws Gutter Clips Screws into gutters
Install Details (notes area here) Check if Detach and Reset: (check box here)
- ✓ Felt type : Is there felt? y/n if y/ what type? Add notes here: Make sure to take a photo here.
- ✓ Starter Shingle : Is it an actual starter shingle? If y/ take a photo.
- ✓ Overview photos of the system: Ridge to Ridge Photos all the way around in a 360 of the system.
- ✓ Roof Component Checklist:
Replace Pipe Boots, Replace Ventilation, Replace Turbines, Replace box vents, Chimney Damage, Replace Skylights, Additional Accessories Quantity and Damage.

Estimates

Every roofing estimate should include basic information about the company and the timeline of the project. This includes:

- Contact information such as phone numbers and email address
- An outline of who's responsible for what (Who's overseeing the day-to-day? Where do you send payment?)
- Estimated start and completion date
- Payment terms



The Overview

As a roofing professional it's important to spell out the costs associated with the project so the homeowner knows what to expect. A minimum listing should include:

- Labor
- Permits
- Materials
- Cleanup
- Removal of construction debris

This list should be detailed, so don't just focus on the flat cost of replacing a worn-out section. Instead, look at all associated costs—like how much it'll cost to tear out your old Roof and install an underlayment; then add new shingles or flashing as well as repairs for gutters if necessary following this project's completion.



1 Good

This is the most basic level of a roof replacement that covers all the standard roofing needs. Many homeowners will pick this choice because it's the cheapest option.

2 Better

The Better System is a more built out system that includes some extra options to increase their home value with a stronger roof system. This roof system is built to last.

3 Best

The best option should be the ultimate system that goes above and beyond the essential replacement. It usually involves replacing the entire roof with one manufacturer's material and entire system, which comes with a type of lifetime warranty. A durable solution worth investing in for homes that value beauty as well!

As a roofing professional it's key to help homeowners understand the value of each package and identify which one will be best for their property, ensuring that the homeowner gets an accurate estimate and the best fit for them.



Roof Repair vs Replacement

It's not always easy for homeowners to tell when they need a new roof or urgent roof repairs. It's important to note these key indications that suggest roof repairs are required.

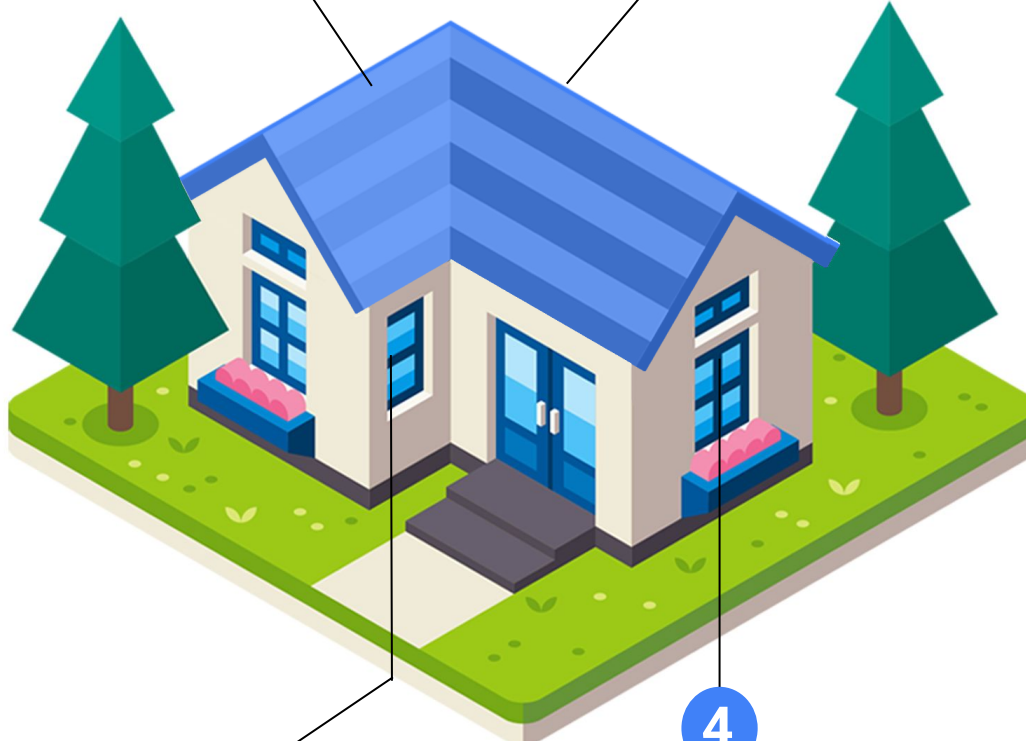
If the roof is 10+ years old, you may need to question whether the roof needs to be totally replaced with the homeowner and educate them on that process.

Visually inspect the roof for cracked, torn, bald, or missing shingles

1

Scan the roof for loose materials or wear around chimneys, vents, pipes, etc.

2



Look out for excessive shingle granules in gutters. This is an indicator of advanced wear

3

Examine drainage, ensure gutters and downspouts are secured. Ensure drains are open and allow water to flow and gutters and downspouts are free of obstructions.

4

Other Signs of Damage

- Tiles or shingles that are missing, loose or worn
- Excessive rust or gaps in metal roof seams
- Worn coatings or membranes on commercial roofs
- Granules from shingles collecting in gutters
- Loose or missing flashing, especially around chimneys or vents
- Inadequate or blocked ventilation
- Discoloration of roofing shingles or panels
- Mold growth
- Punctures or tears
- Stains on exterior walls
- Stains on the underside of the roof decking
- Loose, gapped or leaking gutters
- Blocked downspouts

Storm Damage

Precipitation has always been a factor in challenging the strength and condition of a roof. Often, poor installation is the reason for leaks and compromises to the decking underneath the roof covering. But, there are other causes of damage from water, including clogged or misaligned gutters. Moisture trapped or contained on a roof can result in algae built up, too.

Hail can cause surface damage to asphalt tiles, reducing the lifespan of the material. Strong winds can lift shingles off the roof decking. Even the loss of one shingle can lead to extensive damage sooner or later. Wind can also compromise the underlayment, which is key to a roof's water-shedding capability.

Snow Storms	Tornados	Hail Storms
Snow Storms average 20-40 inches of snowfall in Northern states. With a high of 120+ inches.	Tornadoes can get up to 379 MPH, with an average of 158-206mph	Hail Storm: Hailstones can be destructive to homes especially the larger stones
Time of year it's common		

November-March in most states

March-June in the Central States.

March-October in most of the US but usually in the Spring.

Example of Damage		
<ul style="list-style-type: none"> > Roof and structural damage > Damage to fascia > Damage to exterior pipes, and siding > Leaks > Mold Growth > Blockage in the sump pump 	<ul style="list-style-type: none"> > Shingles blowing off > Flying debris can hit the roof > Can cause the roof to completely tear-off 	<ul style="list-style-type: none"> > Bruise/ Cracking shingles > Water damage inside your home
Signs of Damage		

- > Missing or cracked shingles
- > Leaking Fluids in the home or attic
- > Fallen tree branches
- > Loss of Granules
- > Broken down gutters
- > Water pooling in areas

- > Dents in gutter or flashing
- > Leaks in roof
- > Broken Tile
- > Dented asphalt shingles
- > Missing shingles

- > Random damage
- > Hail hits that are black
- > The roof may appear shiny
- > Hail hits are soft to touch

Other Common Damage

Addressing damage quickly is the key to preventing additional property loss, moisture-impacted ceilings, walls, and objects inside a home or business.



Aging

When gutters appear to contain a lot of shingle granules, it's an obvious sign that the roof material is losing its protective surface particles. The granules on most asphalt roof shingles are there to give the material added weight and deflect the sun's ultraviolet rays.

Excessive sunlight

Nature's elements can be harsh. Even the warm sunshine we find so pleasant is destructive when confronted every day for years and years. Rooftops are continuously bombarded with ultraviolet rays – a form of radiation. Eventually, roof damage occurs in thermal splitting, cracking, blistering, curling, and cupping of shingles.

Rust

Eventually, metal rusts. It may take years for rust to compromise the integrity of a metal roof seriously, but corrosion is always a factor to pay attention to in a metal roof inspection. Over time, severe rust can cause pinholes in the metal panels allowing water to leak in.

Damaged flashing

Sometimes flashing can pull apart, promoting water infiltration underneath the metal roofing. Any moisture that penetrates the roof decking can cause buckling or even rotting. Water underneath the metal roofing can corrode the underside of the roof panels, too.

Improper installation

Flashing is the main culprit in roof damages due to poor installation. A drip edge is a flashing material that contractors install along the edge of a roof. A missing drip edge flashing can cause many issues, including promoting insect infestation, encroachment of wind-driven moisture under the roof edges, and the promotion of soffit and fascia rot.

The poor installation comes in other forms, too. Improper shingle overhangs at eaves, careless nail placement or use of nails prone to rusting, and improper application of the starter strip can cause water infiltration and vulnerability to shingle loss in windy conditions.



Roof Repair

Small area roof repairs involve locating a leak(s) and correctly sealing it. While some property owners wish to take the task on themselves, only a roofing professional can address the problem for a proper and long-lasting repair.

Locate Problem Areas

Water stains often evidence leak location on the ceiling. On the roof, we'll look for any curled, cracked, or missing shingles. Leaks can occur at any point where shingles butt or where caulking and flashing have been compromised. End caps and ridge shingles can also be the source of leaks.

Secure Damaged Shingles

It's Crucial to re-secure curled shingles using a coating of asphalt roofing cement, ensuring that edges and corners are secured. It would be best if you replace damaged or missing shingles. If shingles are cracked, missing, or worn, replace them with new shingles and fasten them into place with galvanized roofing nails

Secure Damaged Flashing

We repair leaks caused by metal flashing around chimneys and dormers. If there are problems with sealant at joints, you should apply a new coat of cement to it.



HAIL BRUISING



SHINGLE CURLING



MISSING SHINGLES



Roof Replacement



Roof Tear-Off

A roof tear-off is performed to remove failing components of a roof system, including shingles or tiles, flashing, and underlayment. In a normal tear-off process, the roof is stripped down to the wooden roof deck. The process usually takes around a day to perform, depending on the type and size of the roof.

Why Is It Done?

Best practices in a significant roof repair or replacement involve a tear-off. This complete removal measure is necessary when roof leaks cause water damage to the wood decking. Damaged boards must be replaced, or the new roofing can not be installed properly to ensure reliable performance.

How Is It Done?

Scheduling the tear-off process is the first step in a roof replacement. It's essential to plan a tear-off when there is no rain in the weather forecast—protecting all vulnerable landscaping features with a tarp so that falling debris won't harm bushes and flower beds.

Once the property is protected, tear off begins at the roof ridge and works down toward the eaves. After shingles/tiles and flashing are clear, the old waterproofing layer is removed, exposing the roof deck. It's essential to inspect the roof's structural integrity to ensure a solid base layer on which the new roofing system will be installed. All debris from the tear-off is collected and disposed of properly.



Roof Replacement



Damaged Roof Decking

There are many reasons that decks may need repair, and deck repair costs vary depending on the extent of the damage and the building material. During sealing or replacing a deck board, other issues may become apparent based on the age of the home or building.

Deck material is a significant factor in determining what repairs are needed, the cost, and the time it will take to make the repairs. For example, composite decks cost more than wood.



Underlayment

The lifespan of roof underlayment varies depending on what it's made of and the conditions it's exposed to. Extreme heat or cold, pests, or physical damage from falling debris can significantly affect the lifespan of the roof underlayment.

Asphalt felt is the most common type of underlayment. Newer synthetic or rubberized asphalt underlayments are more durable than asphalt felt and can offer better moisture protection. We recommend that roof underlayment inspection take place every 3-5 years or after any damage is detected.



Underlayment Replacement

Estimates for underlayment replacement depends on these factors:

- The condition of the underlayment
- The complexity of the roof
- The number of tiles/shingles that need to be replaced in the process

Emergency Repairs

Severe weather can cause damage to clients' homes and buildings, creating the need for urgent roof repair. Roofing professionals must perform a complete inspection of the property's storm damage, meet with the insurance adjuster, and get the roof system repaired or installed following code requirements and manufacturer specs.

- Fast, on-site inspection
- Quick ordering of new roofing materials
- Expert help with property insurance claims
- Skilled restoration services performed
- Halt damage due to moisture intrusions
- Adherence to code requirements and manufacturer specifications
- Fair, transparent pricing



Roof Tarping

Wet, cold weather is common in the colder months, and it's especially prevalent from December to February. Fast remediation of moisture intrusion is critical, especially when the risks run high during extreme weather periods. That's why waterproof roof tarps can be an indispensable stop-gap solution before or after an episode of harsh winds and rain.

A weak point, such as a crack in a shingle; a corroded pinhole in metal roofing; or a tear in the roof underlayment, can allow water to find its way into an attic. Rain combined with straight-line winds can cause water damage.

The first step in mitigating further damage to your roof and potential water intrusion to a home or building's interior is to cover it up. Tarping a roof is a short-term necessity, but it gives the property owner time to deal with a more permanent roof repair or replacement.

Siding

The benefits of siding are endless. It can be used to protect your home from storms. Siding can be affordable and durable, but depending on what material you choose you may have to replace it over time. Siding comes in many different styles. Siding is essential to protect homes and should be checked regularly for cracks and dents, especially after wind or hail storms.

Wood Siding

Wood is a sustainable, renewable resource that can last for decades if maintained properly. The variety of wood siding styles in the market are endless to match any design preference or home décor need.

Metal Siding

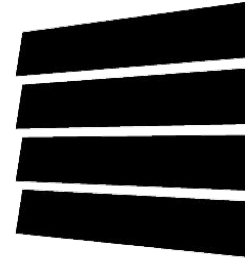
The metal siding industry has provided homeowners with an appealing material that is durable and low maintenance. Annual inspections are all the homeowner needs for this type of product.

Vinyl Siding

Vinyl siding is the most popular type because it's versatile and durable. You can find hundreds of colors and textures to match your home or business needs with varying degrees to protect against weather conditions like moisture that will rot or corrode other materials over time.

Fiber Cement Siding

The top siding chosen by homeowners in the United States is Fiber Cement. It's durable, low maintenance, and has a unique feature that makes it energy efficient to increase the value of your home.



Gutters

Rain gutters are the long, hollow device attached to the roof edges. Their primary purpose is to catch rainwater and direct it away from your foundation. For a house to be complete, it needs a gutter system to function properly. Gutters serve different functions to protect your home and household.

Damage Check

Different key signs let a property owner know if they need a new gutter. Take a look at some of them below so you can be proactive, not reactive in your gutter's health.

- A big number of cracks, holes, or rusted sections
- Sagging Gutters
- Nails or screws on the ground
- Separated gutters
- Peeling exterior paint
- Pooling water or dirt
- Eroded landscaping
- Flooded basements



Benefits of a Strong Gutter system

Protect Your Home

Rain gutters have one main job – divert water away from your home in a smart and effective way. Heavy rains can cause a lot of drainage issues and havoc on your home. If the water is not directed away it can degrade your weatherproofing on windows, wood foundation, and more.

Protect Fascia and Soffits

It's essential to have a clean and proper gutter system that is free of cracks or holes. If the gutters are pulling away from your home, then it could mean they're clogged up with debris.

Soil Erosion

Rain gutters can prevent problems like soil erosion, making your foundation settle unevenly and leading to cracked walls. It also prevents basement flooding if rotting siding prevents water from reaching the house through rain run-off.

Gutter Maintenance is often overlooked by homeowners, as a roofing professional its essential to educate and emphasize the importance of a good gutter system.

Our Services

Training Worksheet

Every company is different in their roofing approach. During training, take the time to fill out this worksheet with the specific products, systems, and more that your company uses.

What is our Roof Inspection Process like?

What storm damage is common in our area?

What are our Good, Better, and Best Systems?

Do we perform emergency roof services?

What other exterior services do we offer?

Our Services

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Exterior Service _____

Exterior Service _____

Exterior Service _____

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Interior Service _____

Interior Service _____

Interior Service _____

Notes

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