



FLUID APPLIED REINFORCED ROOFING

Understanding Hail Remediation



Although it may not be as common as snow or rain, hail is incredibly dangerous and can be far more expensive to property owners than other precipitation. Hail contributes to over \$10 billion in property damage every year in the United States.

Hail damage is unpredictable in roofs. The extent depends on the type of roof, its age and state of repair, as well as other uncontrollable factors like the size of the hail, wind speed and wind direction. Hail can dent, crack or split roofing membranes and seams, and if it isn't repaired quickly, this damage can lead to further issues in the building envelope and occupied spaces if water gets in.

Think you have had a hail event? Read through this guide to help determine and the steps to take.



First, You must determine if you've had a hail event.

If a building is not occupied or if the event is at night, you might not know if there has been hail. If you suspect hail you can go to the different weather services, and you can look and see where the hail events happened and what size the hail was. You can see the corridors where they moved through different parts of an area. This way you have some idea if hail was a possibility on a building.

One of the ways inspectors look for hail is they walk around the roof and see if there's dents in the sheet metal on the air conditioning or on the vents. And if they see dents, then they know there's been enough hard impact of hail that the roof could be compromised. If you've got a lot of insulation on your roof you could get dimpling where it depresses the insulation underneath and you see a golf ball like impression on it.

Then it takes a good specialist who is familiar with the different types of roofs as they react in different ways. Sometimes it's just a dimple on the surface of the roof, but on a built-up roof with a hot asphalt or some modified bitumen's that are not very flexible, you have the shattering of the membrane hidden underneath.

Single Ply's might be a little easier to identify damage. Often the damage doesn't show up right away. Hail damage may result in little spider cracks from the hail impact, but they are not visible until fine dirt gets in the cracks. Then weeks later you can see the little shatter impacts. Sometimes it takes a few inspections.



What If There Is No Visible Damage?

In some cases, someone might not even know that they've had damage from a hailstorm until they start seeing signs of water intrusion or other issues inside the building.

A common way of confirming damage is to take cuts out of the roof. A contractor or consultant will remove a 12-inch by 12-inch square of the roofing material to check if there is damage underneath. You will see the shattering where you can't see it on the surface.

There are some roof systems that are a little more susceptible to hail damage. Asphalt gets very brittle in built-up roofs. Modified Bitumen is better because they are modified with polymers and it's a softer sheet. With single ply's TPO is worse than PVC but they all can experience damage.



The underlayment has a lot to do with how much damage you incur. If you've ever walked on a carpet with no padding, you get very little deflection as it's a solid surface. If hail impacts and there's a nice solid piece of plywood behind it can't deflect that roof too much. It can compress it, but it can't deflect it. If you have insulation underneath that allows for some deflection which means that membrane's taking a much bigger impact because it's been misshaped to a greater extent.

There are pros and cons to the insulation factors because hail impact wasn't as bad in years past. With the new insulations and all the various types of membranes we are getting more and more evidence of hail damage.

Before we can address how to repair hail damage, we need to discuss the important point of insurance claims.

Hail damage is handled by an insurance company as it is not a manufacturer warranty issue in most cases. What the insurance company will allow you to do on a roof has been a problem in years past. Historically if you had hail damage, an insurance inspector would come out and they would evaluate that roof. If the damage was minor, they might ask for a repair. If they deemed that they needed a roof replacement, they required you to replace with the same materials for liability reasons.

For example, imagine we had an X Y Z (BUR) built-up roof. The insurance company will want to go back with that same roof. If they put something else on, they will worry about being responsible for the products that you are replacing it with. Sometimes putting the same product back on isn't the latest technology but they feel they have no choice.

This way of thinking can be very expensive because they want to tear off the entire roof and replace it. Now the industry is becoming more enlightened. We can work with the insurance inspectors and consultants to consider a fluid applied roof system. They can avoid the costly removal and replacement and restore it with a with a roof membrane with superior hail resistant qualities plus save thousands of dollars. This option gives you a better than new roof in most cases.



If you have a roof on your building and it was damaged by hail, chances are it's going to happen again.

While a qualified roofing consultant can help you assess the damage and figure out a plan for repair, the risks and expenses associated with hail damage means it makes a lot of economic sense to invest in a hail-rated roof system to begin with, in order to proactively reduce the chance of extensive and costly repairs in the event of extreme weather.

As the insurance company and building owner realize they can get an equal warranty to what they had on the original they become more comfortable with this solution.

Recently in the hail prone Midwest states, Consultants are advising insurance companies that they are paying millions too much on these roof replacements when there's an alternative that can give you a membrane that'll have equal or greater life with a warranty from reputable manufacturers.

You now have the option to restore your roof with a roof system that's a little more robust and that can withstand most hail events. Western Colloid has a solution.

If hail is severe enough there can be damage even with Western Colloid. No warranties cover catastrophic hail, but if there is damage, with Western Colloid's systems it's easily repairable.

Contact Western Colloid to learn about warranty rider options for hail events.



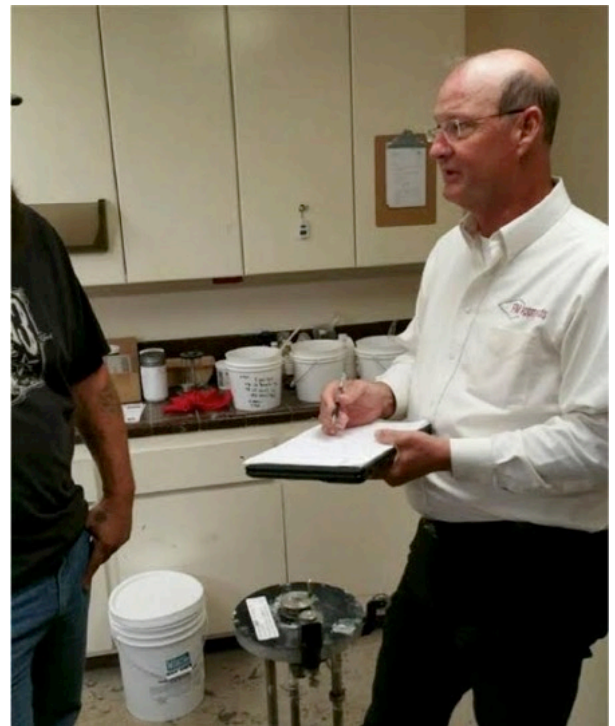
What Does It Mean When a Product is FM4470 Approved for Hail?

While it's easy enough for roofing manufacturers and suppliers to make claims about durability and their ability to withstand hail, you want to know your investment will last. A third-party accreditation gives you peace of mind, knowing that the manufacturer's claims have been verified by an independent party with the highest standards.

FM GLOBAL is an international body that provides third-party testing and certification services. They test property loss prevention products and services—for use in commercial and industrial facilities—to verify they meet rigorous loss prevention standards of quality, technical integrity and performance.

FM Approved Roof System

When approval under the FM4470 standard is granted to the manufacturer they follow a rigorous process in order to have FM approve their roof system. For hail, roof systems can be rated for moderate, severe or very severe (also referred to as MH, SH and VSH) hail, depending on the level of protection you need in your area.



Our Western Colloid systems have been tested for severe hail at FM Global

That test is as follows:

*“FM Approvals Section 3.4.2
For the severe hail damage tests, a 2-inch diameter steel ball weighing 1.19 pounds was dropped on the test sample from a height of 141.5 inches, (11.75 feet). This procedure was repeated several times on various sections of the sample. After each drop the sample was inspected for damage to the weatherproof membrane. Following initial testing, the sample was conditioned (weathered) for 1000 hours in the FM Approvals Ultraviolet Weathermeter. The initial procedure was then repeated on the conditioned sample.”*

Many of Western Colloid’s roof coating systems are accredited under the FM4470 standard. This standard evaluates single-ply, polymer-modified bitumen sheet, BUR (built-up roofing) and liquid applied roof assemblies for their performance.

Along with their FM4470 accreditation, many of Western Colloid’s roof coating systems have UL Class A ratings and ICC-ES evaluation, giving you extra assurances with regards to quality and durability. Their Cool Roofing Systems also comply with other stringent standards such as California Title 24 Energy Efficiency, Miami-Dade Building Code and USGBC LEED Requirements, so you have the potential to enjoy extra energy efficiency benefits along with hail and wind protection.



In Summary

If you are in a severe weather area, chances are you will be dealing with hail damage in the future. If a consultant has not been called in you will need to find an experienced roofing contractor in different types of roofs to find hail damage, especially immediately after the hail event.

Be cautious and don't just talk to one company, talk to multiple contractors. Be cautious if you've had a hail event because there are people that swoop in, make their cash, and get out of town.

Western Colloid has FM Approved systems that can repair and restore your hail damaged roof, no tear-off required.

Western Colloid's Hail Damage Remediation Solutions are:

- Money Saving – Fraction of Replacement Costs
- Hail Resistant – Helping Prevent Future Claims
- FM Approved – Meets & Exceeds Ratings
- Renewable 10, 15 & 20-year Warranties
- 50-year Track Record – With Proven Systems

For more information on which of our coatings are FM4470-compliant and how to best protect your roof from hail or puncture damage, contact Western Colloid.





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