



# The Roof Asset Maintenance Program

Stephenson Corporation's Roof Asset Maintenance (RAM) Program offers a unique approach to preventing costly roof repairs, while helping your company improve its cash flow. RAM uses a blend of data collection and organization, scheduled moisture surveys, and highly-trained personnel to provide the maximum roof system integrity at a minimum of cost.

RAM begins with data collection and visual inspections. During the roof inspection, we'll examine:

- Decking.
- Vapor barriers.
- Insulation.
- Roof membranes and flashings.

We'll also look at your warranties, previous surveys, repair and maintenance history, and other documentation from other contractors, manufacturers, and architects that have worked on your roof systems. Then we'll place the data in one hard cover manual, so you can easily review your complete roof system history. We will also provide you with:

- Replacement and repair values.
- Action items.
- Recommendations.
- Capital and expense budgets.
- Warranties.
- A list of membrane defects.
- Roof top details.
- Your moisture survey.
- An inspection history.
- A history of the work completed on your roof system.
- Photographs and roof plan drawings.



# The Roof Asset Maintenance Program

## How Does RAM Save Money?

Your roofing system represents a large capital investment. It is the asset that protects your other assets. As such, you want to keep your roof maintained as well as is possible.

RAM can realize savings for your company by:

- Extending the life of your roofing assets.
- Reducing annual service life costs of your roofing system.
- Reducing the entire service life costs of your roofing system.
- Reducing shutdown times during repairs due to shorter or eliminated repair periods.
- Reducing other-than-roof asset damage because roofing systems are repaired more quickly.
- Provides better protection than a typical warranty.

The entire process can be streamlined with reduced cycle time by being:

- Proactive rather than reactive.
- Detecting problems in their early stages.

Another advantage of establishing an effective Roof Asset Management Program is the process becomes a turn-key operation.

In order for a Roof Asset Management Program to work effectively, there must be a long-term commitment to the process. Three key aspects include:

- Gathering accurate information.
- Organizing the information.
- Establishing a preventive maintenance schedule.

Because of the cost savings and advantages associated with our RAM Program, you can't afford not to use it. On the other hand, doing nothing could end up costing you everything.



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## RAM as an Investment

The following scenario demonstrates how your best investment and your largest return on your investment comes from performing preventive maintenance on all your buildings, keeping them all in a manageable state while minimizing shutdown time and preventing asset damage within your buildings.

Assume a \$100,000 repair and maintenance budget for five buildings:

Building	Number of Leaks Each Year
A	25
B	6
C	4
D	2
E	1

Due to the high number of leaks, most people would consider spending their entire repair and maintenance budget on Building A, while roof damage worsens in Buildings B - E. Meanwhile property damage and shutdown continues in these buildings.

Instead, perform preventive maintenance on Buildings B - E. This will prevent these buildings from becoming another Building A. Use the remainder of the budget to repair the worst portions of Building A and perform some miscellaneous repairs.

Either continue repairs to Building A the next year (while continuing preventive maintenance on B - E), or enlarge the repair and maintenance budget to permit a complete tear-off of Building A. By the third year, all of your buildings will be in a RAM preventive maintenance mode, reducing the risk of ever again owning a "Building A".



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## How RAM Improves Cash Flow By Extending Roof Lifetime

Take the example of a 25,000 square foot commercial building. If the roof system cost \$100,000 to repair over its lifetime of 10 years, with no preventive maintenance, the average repair cost is \$10,000 per year. But, if a regular maintenance program, like RAM, were used to extend the life of the roof system:

Roof System Life Expectancy	Annual Roof Maintenance per Year	Investment Average Cost
10 years	\$0	\$10,000
12 years	\$0	\$8,333
15 years	\$1,500	\$8,166
20 years	\$2,000	\$7,000

Extending the useful life of a roof system is especially important if you lease your property to other businesses, and therefore expect to own it for many years.

## Roofing Maintenance

Preventive maintenance helps improve cash flow when the following items are taken into account:

- Deck/insulation deterioration.
- Lost energy due to wet insulation.
- Higher repair costs when damaged areas aren't quickly identified.
- Shutdown time during larger roof system repairs.
- Interior damage due to failed roof systems.
- Complete tear-off costs vs. a RAM Retrofit.
- Interest expense and the time-value of money.



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## Tear-offs vs. Retrofits

If your car gets a flat tire, do you buy a new car? Of course not; you replace only the tire. Similarly, if part of your roof is leaking, damaged, or not insulating as it should, it makes sense to replace only that part of the roof that is damaged, rather than replace the entire roof.

For example, take a typical commercial building with a roof of 19,100 square feet, and a total damaged area of 700 square feet.

### Option A - Complete Roof Removal

Tear-Off	191 x \$70 per 100 sq. ft.	\$13,370
Insulation difference	191 x \$10 per 100 sq. ft.	\$1,910
Total cost:		\$15,280

### Option B - RAM Retrofit

Roof Preparation	191 x \$15 per 100 sq. ft.	\$2,865
Tear-off and insulation	7 x \$200 per 100 sq. ft.	\$1,400
Total cost:		\$4,265

That's a savings of **\$11,015**. You'd have to retrofit more than *a third* of your roof system before a complete tear-off became more economical!

## Retrofitted Roofs Cost Less

A retrofitted roof provides you with another cost saving. Because a retrofit takes less time than a complete tear-off, and repairs occur only over the affected area(s), the interruption to your normal business day is minimized. You still have some use of your facility while the retrofit occurs (depending on the size and location of the retrofit).

Before you completely remove your roof, consider a retrofit.



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## RAM vs. Warranties

Roof System Task	Traditional Warranty	The RAM Program
<b>Roof Inspections</b> Recommended twice a year.	Owner responsibility	Document roof conditions and detect problems before they become unmanageable.
<b>Preventive Maintenance</b> Required by most warranties	Owner responsibility	Extends the life of the roof system and ensures long term performance of the roof system.
<b>Housekeeping</b> Recommended twice a year, and required by most warranties.	Owner responsibility	Removal of debris from the roof membrane, drains, gutters, and required by most warranties scuppers to ensure proper drainage.
<b>Leak Repair</b> Response to roof leaks at the owner's request.	Might be covered by the warranty. The owner is responsible to provide written notification to the manufacturer.	Quality workmanship along with fast, reliable service to minimize damage to the building and roof components.
<b>Extensive Repair Service</b> Extensive remedial work caused by abuse, vandalism, acts of God, and alterations to the roof	Not covered	Quality workmanship along with fast reliable service to minimize damage to the building and roof components system.
<b>Roof Inspections</b> Recommended twice a year	Not covered	Document roof conditions and detect problems before they become unmanageable.
<b>Reports</b> Track the history of all roof activity.	Not covered	Documented history of all roof activity including inspections, maintenance, repairs and leaks.
<b>Additional Services</b> Effective roof asset management tools	Not covered	<ul style="list-style-type: none"> <li>■ Infrared Roof Moisture Surveys</li> <li>■ Roof Management Software</li> <li>■ Information Database</li> <li>■ Roof Replacement/Restoration</li> </ul>