

Fastener Manufacturer Tightens Roofing System Performance



Roof Asset Management Highlights

- Information & Analysis Builds Roadmap
- Enhanced Fall Protection Ensures Safety
- Interior Protection System Keeps Plant Safe
- Plant Kept 100% Production During Project
- Energy Savings Covers Project Costs
- 15 Year Warranty / Maintenance Program

Facility Background

The 400,000 sf manufacturing facility had a vintage 1974 gypsum deck and built-up roofing system. Its poor performance was impacting production, quality, energy and safety. The client needed an objective and collaborative team to determine and implement a multiyear strategy.

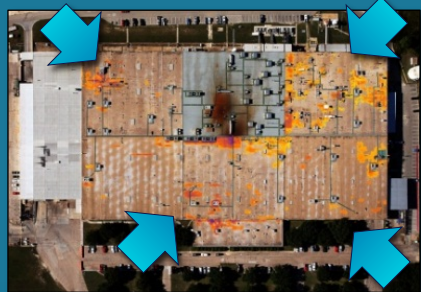
Complete Condition Assessment

RAM's comprehensive condition assessment quickly baselined the roof and building envelope performance. Aerial infrared identified moisture hidden in the roofing system. The onsite engineering and diagnostic condition assessment evaluated the roofs, walls, structural systems, and fall protection safety exposures. The final results helped win support and funding for resolving the building's performance issues.

Engineered Solution

RAM's engineering team provided detailed engineered design, drawings and specifications for the roof replacement, temporary and permanent fall protection systems, and interior protection. The team also handled bid process management with bid specifications, qualification of bidders, and working with the client to make the best contractor selection.

RAM's design of temporary fall protection provided a clear path for ensuring safe and efficient production for the roofing contractor. This equated to hundreds of thousands of dollars in savings to the winning bidder and Client's budget.



Aerial Infrared Pinpointed Hidden Moisture

"RAM's Services helped build a compelling and objective story that got Corporate's Attention, Support and Funding."



Replacement Without Plant Downtime

Design / Building Project Deployment

The client needed a trusted partner to help them stay focused on running a profitable business and to ensure the project's success. This is where RAM's Design / Build team took responsibility for the performance and success of the entire project:

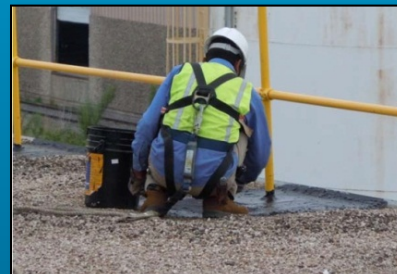
- Installed 1500lb Rated-Netting and 6mil Poly Interior Protection Ensured Continued Safe and Reliable Plant Production
- Installed Temporary Fall Protection to Ensure Contractor Safety During Demolition and Installation
- Helicopter Lift and Replacement of 45 HVAC Systems on New Curbs
- Removed Old Roof and Installed New R-22 Built-up with Flood Coat & Gravel Roofing System
- Installed Engineered, OSHA Compliant, Permanent Fall Protection Systems
- Provided a 15 Year Warranty and Maintenance Inspection Program
- Project Safely Completed On Time and On Budget
- Plant Maintained 100% Production During Roof Replacement Project

Energy Savings Cover Project Costs

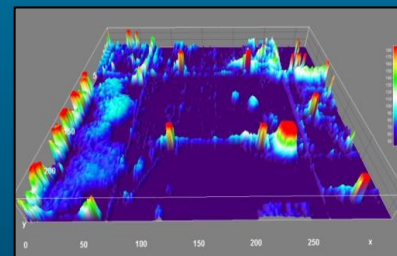
Sustainability and energy optimization are key components of success for meeting the client's corporate mandates. The new roofing system increased the R-value from an R2 to R22. RAM's energy modeling incorporated the building's thermal performance, ASHRAE / DOE criteria, and Client climate/energy data to determine that the upgraded roofing systems will save the facility over \$18 Million in energy costs over the next 20 years...more than paying for the surveys, design, new roofing system materials/installation, safety and interior protection costs!



Interior Protection



Permanent Fall Protection



Energy Modeling

OUR METHODOLOGY = YOUR SUCCESS

RAM USA is a national roof and building envelope consulting and engineering services firm focused on **cost effective asset life extension solutions**. Our goal is to help **preserve and protect your portfolio of buildings** – Whether you have 1 or 100+ sites.

Our unique, **Condition-based Approach** is built upon **Information, Implementation and Continuation (IIC)**, which empowers you to **proactively** deploy systematic solutions to **reduce capital, O&M, and energy expenditures, while extending the life of your assets**.

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