

News and Views



Restored PVC Withstands Severe Hail Storm

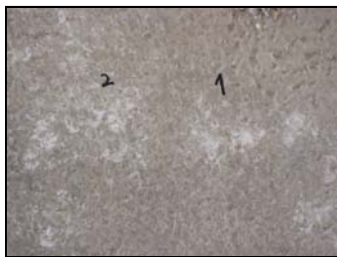


Figure 1 - Witness marks on Surface of Topcoat

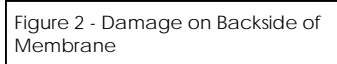


Figure 2 - Damage on Backside of Membrane

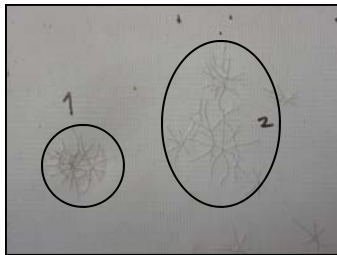


Figure 3 - Damage to surface of membrane with coating removed

In June of 1998, this PVC membrane was restored using Eraguard 1000 white acrylic coating (average coating thickness of 16 mils dry) in Denver, CO. At the time of the roof restoration, the membrane age was estimated at 11 years old. In the spring of 2004, the roof went through a significant hail storm. A 3 ft by 4 ft section of the PVC roofing membrane was removed for analysis. Figure 1 shows the witness marks of the hail strikes on the surface of the top coating. Figure 2 shows the backside of the membrane and the damaged done to the PVC in the same location as Figure 1. The size of the strike damage ranged from very small to as large as 2". On average, there were over 10 strikes per ft² on the

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Prairie Technologies was conceived by its sister company ERSystems. Since its inception ERSystems has pioneered, educated, and made cool roofing a viable, main stream roofing technology. This history supported the creation of Prairie Technologies; specifically to support rooftop applications of sustainable and renewable building technologies.

Prairie Technologies is a consulting and technology firm specializing in the design and implementation of sustainable building technologies, renewable energy technologies and related building commissioning techniques and approaches. Prairie Technologies emphasizes "roof top utiliza-

tion" through Prairie Green Roofs, highly reflective roofing membranes and coatings, and roof top renewable energy resources.

Prairie technologies is the first company to offer a highly reflective roof coating that meets the USGBC LEED requirements for reflectivity and emissivity and also has a high post industrial recycled content. The Prairie Green Roof System has demonstrated adaptability, reliability and performance. The staff at Prairie Technologies has the knowledge and background in energy instrumentation and renewable energy resources

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ERSystems and Prairie Technologies Corporate Headquarters

A Model of Sustainability for Industrial Buildings

The 50,000 ft² manufacturing and office facility is located in Rockford, MN. The building and site were designed to meet the needs of a functioning, fast growing corporation while mitigating the environmental impact. Although the industrial use of the building and site provided a number of challenges, this same use offered many opportunities for sustainable design. The ERSystems and Prairie Technologies corporate headquarters is unique in the Midwest and demonstrates that industrial buildings can economically minimize their environmental impact. The project is currently registered with the USGBC (US Green Building Council) in their LEED (Leadership in Energy and Environmental Design) program. It is one of five projects currently registered in the state of Minnesota.

Sustainable Features

Land

- Over 7,000 ft² of pervious parking. The parking spaces hold over 4,000 gallons of water during large rain events.
- 2.2 acres of Prairie restoration. This will return almost half of the site to its pre-farmland original prairie vegetative state
- 5,000 ft² of vegetated garden roof. The Prairie Green Roof System, reduces storm water run off and naturally filters storm water.

Water

- Low water use toilets and urinals. These features save over 60,000 gallons of water annually.
- Rooftop rainwater collection systems for irrigating the rooftop garden.

Energy

- 4.8 kW Photovoltaic Solar Array with net metering
- 5,000 ft² of vegetated garden roof. The vegetated roof reduces rooftop air temperatures and adds insulative value
- High Efficiency lighting in the entire building
- LED Exit Lights
- 43,000 ft² of white highly reflective Energy Star certified roofing materials
- Energy management system including fully instrumented rooftop HVAC units.
- Occupancy sensors throughout the building

Air

- Low VOC paints and adhesives
- No materials used containing CFCs
- Low emitting, green certified carpeting

Materials

- All structural steel and rebar used in the construction has a minimum of 90% recycled content
- Materials with low embodied energy
- Local suppliers used to minimize transportation effects on environment
- Durable low maintenance materials like concrete and steel used for the majority of construction



Prairie Green Roof System



Rooftop Solar Panels

Weather station with live webcam

Webcam and rooftop weather can be viewed at
www.ersystems.com and www.prairie-tech.com





Figure 4 - Damaged Vent

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 sample. 95% of these strikes damaged both the top and bottom layers of the membrane as shown in Figure 3.

Although there was significant damage to metal roof top HVAC units and vents (Figure 4), the coated top surface of the membrane showed no damage, only witness marks. **Six months after the storm, the roof system is providing leak free performance.**

A project technical summary, including 5 year reflectivity performance, can be found on our website.

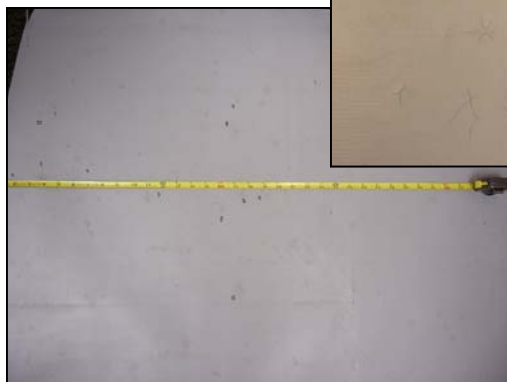


Figure 5 - Witness marks on Surface of Topcoat



Figure 6 (Left) - Damage on back of membrane sample

Figure 7 (Above) - Close up of damage on the back of membrane sample



IN THE NEWS

Coatings Meet LEED Requirements

ERSystems Erathane Ultra, Eraguard 1000, and ERLASTIC all meet the requirements for LEED Credit 7.2 - Heat Island Effect Reduction. All three coatings are registered with Energy Star and achieve emissivities over 0.95 (tested in accordance with ASTM 408).



www.ersystems.com

Check out the new additions to the ERSystems web site including our live web cam and live weather data off of our roof top in Rockford.

Roofing Longevity Study

The Roofing Industry Alliance published a study that estimates realistic roof longevity. The findings included:

- The average life of a low-slope roof is 17 years
- Building owners value in order - 1. Installation cost 2. Installation quality 3. Life cycle costs
- 75% of building owners value energy efficiency as very important when considering roof replacement
- 50% of building owners said if the depreciation period was reduced, they would replace their roofs more frequently
- When replacing or recovering their existing roof system, 90% of building owners say they use more insulation or other methods of saving energy

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 (Solar and Wind) that make it a leading resource for building owners, corporations, government, and educational facilities.

If you have questions regarding Prairie Technologies, please call 800.403.7747.



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Back Page Advice

"We didn't inherit the earth from our parents. We're borrowing it from our children."

Chief Seattle (1788-1866)
Suquamish/Duwamish chief

Things to Look for this Fall

In the coming months ERSystems will be on the move and making several new introductions.

LOOK FOR US AT:

- The Wisconsin Green Build Show (Oct)
- The Midwest Roofing Show (Oct)
- International Greenbuild Show (Oregon)
- Chicago RCA (Jan)
- National Roofing Contractors Show (Feb)

Watch for the newly updated ERSystems web site. The new site will provide easy access to MSDSs, data sheets, and specifications. The new site will be on line in November.

Product Profile - ERLASTIC

ERLASTIC is a 100% acrylic coating designed to go over new or aged asphalt roofs. This product is Energy Star approved and ERLASTIC incorporates:

- **Extended ponding water resistance** (8 week submergence tests)
- **Solar reflectance over 82%**. This can lower an asphalt roof temperature by over 70°F.
- **Super adhesion to new or aged asphalt and asphalt emulsions**
- **Resists 'yellowing' and staining** - commonly seen when coating asphalt
- **Super elongation characteristics**
- **Low VOC**



New Employees

Technical Sales: Adam Hough, Mark Lippman

Operations: Steve Meland, Nate Schroeder, Bill Bauer, Rose Buschel

Annual Incentive Trip St. Thomas in 2005 !



2005 Incentive Trip Preview:
ERSystems 2005 incentive trip destination is to the beautiful Caribbean Island of St. Thomas.
For more information on

how to earn this great trip, contact your technical salesmen or call 800-403-7747 and ask for Sarah Johnson or Tony Leonard. We look forward to seeing you in St. Thomas!!

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Hot Roofs...Cool Solutions® with ERSystems Cool Roof Coatings!