



# ARMA, ERA and PIMA Research Advanced Roof Systems in Northern Climates

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A coalition of trade groups is funding a research project about advanced roofing systems that were installed on an upstate New York correctional facility to evaluate the benefits of thermal insulation and cool roofing in Northern climates.

The [Asphalt Roofing Manufacturers Association \(ARMA\)](#), Washington, D.C.; [EPDM Roofing Association \(ERA\)](#), Washington; and the [Polyisocyanurate Insulation Manufacturers Association \(PIMA\)](#), Bethesda, Md., are sponsoring continued analysis of a reroofing project at the Onondaga County Correctional Facility, Jamesville, N.Y. The Onondaga County Department of Facilities Management identified a need to study building energy use and stormwater runoff from roof systems. Temperature and rain data from the project, which includes vegetative roofing, increased insulation levels and “cool” roofs, will provide information about building performance and roof covering selection.

“ARMA members promote a balanced approach to roofing performance, especially when it comes to saving building energy,” says Reed Hitchcock, ARMA’s executive vice president. “Using a whole-building approach, where roofing reflectivity, insulation levels and other design elements are considered in the decision-making process, will help ensure the right system is selected; this project can only help with that decision.”

When the correctional facility was due for a major reroofing project in 2009, Onondaga County saw a unique opportunity to evaluate the water-retention and energy-efficiency performance for a variety of different roof covering assemblies. The project also offered valuable information that could be used to identify the best options for future reroof projects across the county’s entire building inventory.

The county worked with Ashley-McGraw Architects, Syracuse, N.Y., and CDH Energy, Cazenovia, N.Y., to design and install a field monitoring system to collect data on thermal performance, weather conditions and roof runoff from four buildings at the Jamesville facility. CDH Energy released a report in October 2011 that made recommendations on roof covering selection.

Hugh Henderson, P.E., CDH Energy, remarked the original report laid the groundwork for future roofing projects in Onondaga County. “The use of vegetative roof systems as a stormwater control mechanism was the most important takeaway from the first years of the project,” he explains. “Continuing the project will provide a better evaluation of cool roof and insulation products as part of roof designs in colder climates.”

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With the instrumentation still in place, it was a simple decision to continue evaluating the roof coverings over a longer time period to better see how roof coverings interact with weather conditions. Of particular interest is the effect of accumulated snow on roofs that may affect the buildings' thermal performance.

"Roof insulation is an integral part of the design strategy for a building's energy-efficiency footprint, and this study will help building owners, contractors and architects assess a roof's performance from a broader basis and ensure the best energy efficient components are used," adds Jared Blum, PIMA president.

The Onondaga County reroofing project includes an analysis of the comparison of cool roof technologies, consisting of reflective roof surfaces and high-performing well-insulated roof covering assemblies. "Our members produce reflective and absorptive roof coverings; this study will provide meaningful data that can help designers select the right products for their particular project, regardless of where in the country the roof will be installed," notes Ellen Thorp, ERA's associate executive director.

The project is expected to run through 2015.

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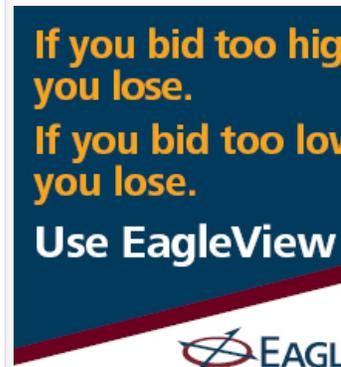


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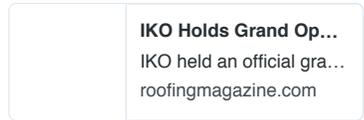
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