

# CASE STUDY



## Project

Metal Roof Retrofit  
USDA Plant Research Facility

## Location

Ames, Iowa

## Contractor

Triton Construction

## System

80 mil TRITOflex membrane  
20 mil TRITOtherm ceramic coat

## Project Size

15,000 square feet

## Completion

August 2015

**The difficulty of complete replacement of a metal roof unfit to drill thousands of fasteners into led the USDA to work with Triton on a long-term liquid retrofit at this important plant research facility.**

There were three leaking, worn-out R-panel metal roofs on buildings at the USDA's Plant Research facility in Ames. It was important to the staff and facility management team to find a successful, long-term, eco-conscious, and non-disruptive solution to their problems. Having recently learned of many other Federal agencies using Triton and saving money by doing so, they saw a perfect fit.

## Limited Options

With a sensitive research facility, minimal disruption was mandatory and the USDA wanted to avoid opening up the building to the elements at all costs. This left them debating between a single-ply membrane or a liquid recover. This type of metal roof already has thousands of fasteners screwed down through it and weakening the deck seemed unwise. Additionally it opens up the potential for trapping moisture in between layers.

With a fully-adhered liquid membrane, the facility wouldn't be disrupted as long as a no-odor material was selected. It was also important to use an impermeable membrane that wouldn't allow moisture transmission and result in future rusting. They selected the most environmentally friendly, non-breathable membrane in the industry called TRITOflex. With 1900% elongation, its ability to withstand structural movements is second to none.



TRITON INCORPORATED

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### **Quick Installation and Energy-Reduced**

The surface was pressure washed and the TRITOflex instant-set rubber was spray-applied in one coat to 80 mils (2 mm) dry, resulting an immediately watertight roof. To finish, a top layer of TRITOtherm ceramic coating was applied as a sacrificial layer so the material and labor warranty can be sustained for 35 years. Additionally, TRITOtherm reduced the surface temperature greatly with its heat-repellent properties and will continue to do so even as the roof becomes dirty. Being an old steel building, the energy savings from this material will show on the bottom-line at the end of each year.

**The USDA is elated to have these buildings at their plant research facility finally watertight with an extremely flexible, durable, energy-efficient, and seamless waterproofing system!**

