

Client

Vermont Circuits Inc.
Brattleboro, VT



Reroofing an existing Corrugated Metal Roof

Existing Roof

20,000 SF Corrugated Metal Roof System

Proven Performance Since 1950

Problem

The metal roof on the building, constructed in the mid 1980's, was showing signs of rapid deterioration, manifested by major leaks at panel laps and fastener penetration points. During the winter months, ice build-up at the eaves resulted in damming up of water that would find its way into the interior of the building.

Much of the problem was attributed to insufficient insulation and the inability of the system to tolerate the thermal movement common to exposed metal panel roofs. After trying all the normal maintenance procedures, including caulking of seams and retightening or replacing loose fasteners, the company desperately sought a more effective long-term solution.



Solution

Seamless Spray-Applied Polyurethane Foam (SPF) Roofing System.

Application

Management decided they'd had enough of repeated roof leaks and the associated liability to the company's business. They invested a considerable amount of time researching various products and contractors to best solve their problems. A number of products were evaluated on a price/performance basis, including single-ply membranes, coating systems and spray-applied polyurethane foam (SPF). Research convinced them they wanted a system with these features:

- A well-documented track record for their specific type of application.
- A system providing maximum energy-savings.
- Insulation that would address the problem of thermal movement.
- A seamless system.
- A system that would add minimal weight.
- A system that would not require thousands of fasteners through their roof.

Convinced that a seamless SPF system was their best solution, they requested proposals from several contractors, checking references, financial data and experience criteria.

After selection and award of contract to S. D. Carruthers, the project proceeded as follows:

- A new metal fascia/foam stop was first installed.
- Loose or missing fasteners were tightened or replaced.
- A primer was applied to the existing metal roof panels.
- An average two inches of seamless polyurethane foam insulation then was spray-applied.
- Two layers of silicone elastomeric protective coating were then spray-applied over the new insulation.
- Ceramic granules were broadcast into the top coating layer for additional durability.

Results & Owners Comments

The completed installation convinced management that they had made the right decision, commenting:

"We felt it was extremely important to match the proper product to our specific type of application. We went with what we considered the best system, as well as the best contractor for the job. The project went just as Carruthers said it would. Before, there was a lot of heat loss and water infiltration. We now see a noticeable difference in heat retention in our upper floor office area, and most importantly, we have stopped our roof leaks."

Management, Vermont Circuits

BEFORE & AFTER



Stack Penetrations through old metal roof system



Stack Penetrations with new Seamless Spray-Foam roof system

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