

Case Study - Infinity Conversions Multi-purpose Metal Building

OVERVIEW

Location

Briggs, Texas

Contractor

Firestable Insulation Co., with KC foam & Coatings Company

Industry

Light Commercial

The Situation

Located in a high-humidity area of Texas, the owner wished to insulate and vapor barrier his metal building as cost and time-efficiently as possible with a code-compliant spray foam solution.

The Result

He chose FS 2.0 closed-cell spray polyurethane, NFPA-275 foamed-in-place insulation - the first and only product of its kind in the marketplace - eliminating the need for a code required topcoat or fire-protective products, such as intumescent coatings. The "zero risk window" product protects subs and saves time, money, unnecessary steps, labor and callbacks. And the job was completed significantly faster than any alternative method he had used before on projects.

Project Stats Building Measured

13,000 ft²

Products Used

Firestable FS 2.0

Single application, closed-cell spray, NFPA-275 foamed-in-place insulation and all-in-one true thermal barrier

Industrial Topcoat

Behr Pro i300, dead flat interior ceiling paint in grey; walls, natural cloud white foam.

Total Installation Time

32 hours over 4 workdays





The Project

The client, owner of Infinity Conversions, wanted to insulate and vapor barrier his 13,000-square-foot multi-purpose metal building, which now houses a vehicle showroom of collectible cars and workshop area, featuring interior partitions, cabinetry, tables and equipment—all in one.

Due to the high humidity and high temperatures in this part of Texas, spray foam insulation was his preferred choice. He wished to meet building safety codes without concerns and extra steps required with utilizing most spray foams available on the market. He also wanted the option of potentially painting some or all the interior with the least expensive topcoat available.

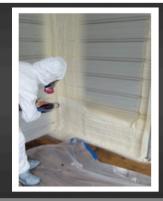
The Challenge

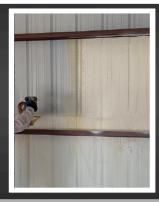
He sought a faster and more efficient way to meet all of his needs without excessive labor hours and multiple tradespeople coming and going. He knew if he were to use regular foam, an additional thermal barrier top layer would be required and then a topcoat of paint for moisture control. Utilizing sheet rock would be too costly due to the spacing of the metal purlins. Cellulosic and cementitious thermal barrier materials were even more expensive, difficult to apply, and would require a team of subcontractors along with added painting steps. Regardless, those products would not hold up well due to flexing of the roof and the different co-efficiencies of thermal expansion between foam and the building materials.

Additionally, he hoped to proceed before making his final decision on what and where to paint. He hadn't decided on the paint color or if he would even use paint. Difficult to manage under normal construction protocols, he planned to decide once the installation of the insulation and lighting were complete. Regardless, he didn't want to be trapped into using the highly expensive (and not very durable) intumescent coatings (for thermal barrier) over the spray foam, which possibly would require another, colored topcoat. He also desired the most economical and simple topcoat paint available.

Ultimately, his goal was to complete a code-compliant, insulated metal building as cost and time-efficiently as possible from start to certificate of occupancy.









The Solution

The client chose a single application, NFPA-275, IBC code-certified spray foam closed-cell insulation—a new innovative product known as Firestable™ FS 2.0. The product also has air, vapor and water barrier properties built into it at the very thickness he desired. It can be left exposed and is fire-rated immediately upon application without fire risk, eliminating time and costs to install gypsum board or other fire-protective products, such as intumescent coatings. Additionally, the product meets interior spaces/Chapter 8 of the IBC code by itself, allowing it to be painted with any standard paint.

He chose Behr Pro i300, Dead Flat Interior Paint (latex). Ultimately, he had installers coat the ceiling and leave the walls a whiter, natural color for increased light reflection. When the ceiling coating team was finished, the client began populating the space as originally planned with multiple work and entertainment spaces, along with other amenities. The installer's part of the job was complete, and the client did the fill-out work himself.

How Did FS 2.0 Help?

- QAI Laboratories certified to NFPA 275 and IBC 2603.9 as a thermal barrier and foamed-in-place insulation all-in-one step
- Single application eliminates the need for intumes-cent coating or sheetrock, saving time and money on installing gypsum board or other fire-protective products
- IBC code compliant as a thermal barrier immediately upon application
- Maintains fire properties throughout its complete volume of insulation
- Eliminates the fire risk window plastics normally carry until covered with a thermal barrier, such as sheetrock
- · Also serves as air, vapor and water barrier
- Utilizes conventional spray foam equipment currently in use throughout the industry
- Provides an aesthetic solution
- Significantly cut costs and time required to complete project

"I was extremely happy with the speed, efficiency and cost of completing the project. The look, adaptability, and performance of the space well exceeded my expectations and cost goals."

—Infinity Conversions Owner, Briggs, Texas

