



# PROJECT PROFILE

## ELASTOSPRAY® Roofing System

realized energy savings and ROI

## Texas A&M University specifies SPF for sustainability

### Owner

Texas A&M University, College Station, TX

### Building

Over 7 million square-feet of roofing on 27 campus buildings

### Problems

Tar and gravel built-up roofing (BUR) systems began to leak after an average of five years of service

### Solution

ELASTOSPRAY® spray-applied polyurethane foam (SPF) roofing systems with silicone coatings

### Advantages

- Applies directly to existing substrate for zero tear-off costs
- Improved energy efficiency paid for cost of roofs in 4.5 years
- 25-year life expectancy with low-maintenance requirements
- Decades of leak-free performance
- Seamless, self-adhering application
- Quick installation for minimal disruption
- Environmental responsibility

The main campus at Texas A&M boasts over 7 million square-feet of spray-applied polyurethane foam (SPF) roofing – almost no other system has been installed for the past 30 years. Why? Proven sustainability and energy efficiency.

In 1974, dissatisfied with the performance of their traditional tar and gravel built-up roofing (BUR) systems, the Physical Plant Department at Texas A&M began looking for alternatives. The BURs were leaking constantly after an average of five years of service, and isolating the sources of the leaks was next to impossible. The university selected SPF because it is seamless, monolithic and fully adhered. And because it is lightweight, a complete tear-off of the existing BUR could be avoided.

“We sprayed over the failing BUR for a number of years, mainly due to budgetary constraints,” says Sam Cohen, Construction Project Manager, Engineering Design Services at Texas A&M. “That’s one of the advantages to SPF. And environmentally, it means all that material doesn’t end up in the landfill.”



In 1985, Gerald Scott, P.E., then in charge of roofing and energy conservation within the Physical Plant Department, announced another benefit the university had been receiving from the SPF roofs: energy savings.

Scott monitored energy savings on 27 different buildings on the campus that had received an SPF roof from 1980 to 1984. The results showed the university was able to cover the complete cost of the roof application through energy savings in an average of 4.5 years.

The oldest over-BUR SPF roofs on the campus are now approximately 30 years old. According to Cohen, they have received little-to-no maintenance due to manpower restraints, yet remain leak-free and retain their energy-efficiency performance. On newer roofs, SPF was applied direct to the metal deck. Most of these roofs are now 10-15 years old and Cohen says they perform as well as the day they were installed.

The main campus at Texas A&M is a busy place. Roofing installations and repairs simply cannot disrupt classes. Cohen says that the speed of SPF installation is an important consideration. With a little planning, his team – along with the university health and safety committee, the building proctor and the contractors performing the work – is able to schedule installations and repairs for minimal-to-no occupant disruption.

## Sustainability and Lifecycle Cost

As Texas A&M's experience shows, on top of improved building energy efficiency, the number one sustainability benefit SPF has to offer is its durability.

The university specifies a minimum of two inches of top-quality SPF, with a silicone coating. The final pass of coating includes an aggregate sand to create a non-slip surface and increased tensile strength due to the high volume of foot traffic the roofs are exposed to throughout their service lives.

A lifecycle cost analysis study performed by Michelsen Technologies LLC in accordance to ASTM E 917-02 Standard Practice for Measuring Lifecycle Costs of Building and Building Systems shows SPF offers a cost advantage of 13-56 percent over membrane roofing systems. The study attributed the SPF advantage to several factors:

- Low tear-off and disposal costs
- Annual net energy savings from superior insulation and reflective coatings
- Consequential damages due to leaks: zero
- Re-coating costs less than replacing a membrane system

Seamless and self-flashing, SPF eliminates thermal bridging and adds its superior insulation properties for improved building energy efficiency and indoor environment.

SPF can be applied directly to the existing substrate in most retrofit cases, eliminating the cost of tear-off and reducing waste to landfill. And while traditional roofing systems must be removed at the end of their useful life, SPF can be re-coated and renewed for many more years of service.

ELASTOSPRAY® spray-applied polyurethane foam roofing systems from BASF use ZONE3® zero-ozone-depleting blowing-agent technology. When combined with appropriate UV-resistant reflective coatings, some systems are ENERGY STAR® compliant.

The National Roofing Contractors Association describes SPF as one of the best roofing systems for flat, unusually shaped or low-slope roofs.

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