

Why FM approvals matter

By Dani Sheehan.

FM approvals are helping shape the future of our industry by defining durability, accountability and risk management for commercial roofing systems.

At its core, Factory Mutual (FM) is a unique organization with a dual mission. On one side, it operates as a global insurance provider. On the other, it functions as one of the most rigorous building materials testing and research facilities in the world.

Roughly one in three commercial buildings is FM-insured, particularly larger and more complex facilities. When a building owner chooses FM insurance, the organization largely dictates how the building system, including the roof assembly, is designed. To earn that approval, the entire roofing assembly is evaluated, including materials, thicknesses, deck types, slopes and installation methods rather than individual products in isolation. The organization has tested more than one million roof assemblies, each designed to simulate worst-case scenarios for fire, weather and structural performance.

FM approvals represent the highest level of fire performance and safety for occupants inside the building. The goal is simple: ensure the roof protects the building, the people inside and the business operations beneath it.

What FM is actually testing

FM approvals verify that a roof assembly meets stringent performance benchmarks, including:

- Fire resistance
- Wind uplift
- Foot traffic durability
- Hail resistance: Moderate hail, severe hail, very severe hail

Unlike many baseline code requirements, FM places significant emphasis on weather-driven loss prevention, which is why these approvals carry so much weight with consultants, architects and large property owners.

Approvals are issued through what are known as NAV numbers, which correspond to specific tested assemblies, not just materials. A spray foam system installed over a steel deck, for example, is tested separately from that same system over concrete, or at a different slope. Each variation must independently prove performance under FM's testing protocols.

For spray polyurethane foam roofing systems, this testing process creates multiple approved assemblies depending on the coating technology used. Through its Ultra-

Thane systems, [General Coatings Manufacturing Corp](#) has developed four primary FM-approved spray foam system types, including:

- Spray foam with standard acrylic coatings
- Spray foam with high-tensile acrylic coatings
- Spray foam with silicone coatings
- Hybrid systems using a polyurea base coat with a silicone topcoat

These systems have achieved severe hail ratings, one of the FM's highest currently attainable performance levels for spray foam. Because each system can be installed across different deck types and slopes, they generate numerous approved assemblies that contractors can reference when bidding FM-specified projects.

How FM approval shapes projects

Owners and insurers trust FM's evaluation process because it focuses on the most common causes of building failure, including wind, fire and hail damage. By validating systems against these risks, FM approvals help ensure that buildings, their contents and the people inside are protected at the highest levels while also allowing more competitive insurance coverage.

FM approvals often determine who gets to bid on a project at all. Many schools, universities, government buildings and large commercial owners will not consider roofing systems without FM approval. If a contractor doesn't have access to FM-approved assemblies or manufacturer partners that have invested in them, that contractor may be excluded from these opportunities entirely.

By investing heavily in FM testing across multiple spray foam and coating assemblies, General Coatings has helped position spray polyurethane foam as a viable, performance-driven alternative on FM-insured buildings. The company's assemblies with severe hail ratings allow spray foam systems to compete in regions where hail resistance is a critical design factor.

Insurance, risk and the bigger picture

FM approvals ultimately exist to reduce risk across the built environment. Insurance carriers want fewer catastrophic claims caused by extreme weather. Building owners want roofs that survive storms without requiring costly replacements. Contractors want systems that perform long after installation.

FM addresses these concerns by testing assemblies to its own performance standards in addition to meeting building code requirements. Traditional building codes are consensus-based and designed to establish minimum acceptable performance levels. FM standards, by contrast, are developed by engineers and researchers who study building failures and determine what durability should look like under real-world conditions. This additional layer of testing is especially important in regions where hail, high winds or severe weather events are common.

High-performing roofing systems are often backed by a broader portfolio of third-party credentials, including Underwriters Laboratories (UL) and reflectivity certifications through the [Cool Roof Rating Council \(CRRC\)](#). Together with FM, these approvals demonstrate that a system exceeds minimum code requirements and aligns with the expectations of insurers, owners and regulators nationwide.

A partnership approach to performance

Through its Ultra-Thane spray polyurethane foam roofing systems and extensive FM-approved assemblies, General Coatings continues to expand the role spray foam can play on FM-insured and FM-performance buildings. These systems give you additional options when pursuing projects that require proven performance under demanding conditions.

By continuously investing in testing, certifications and assembly-level approvals, General Coatings helps you offer roofing systems that meet the highest performance standards demanded by today's commercial market using a collaborative approach: manufacturers providing proven systems, contractors delivering skilled installation and building owners receiving roof systems designed to last.