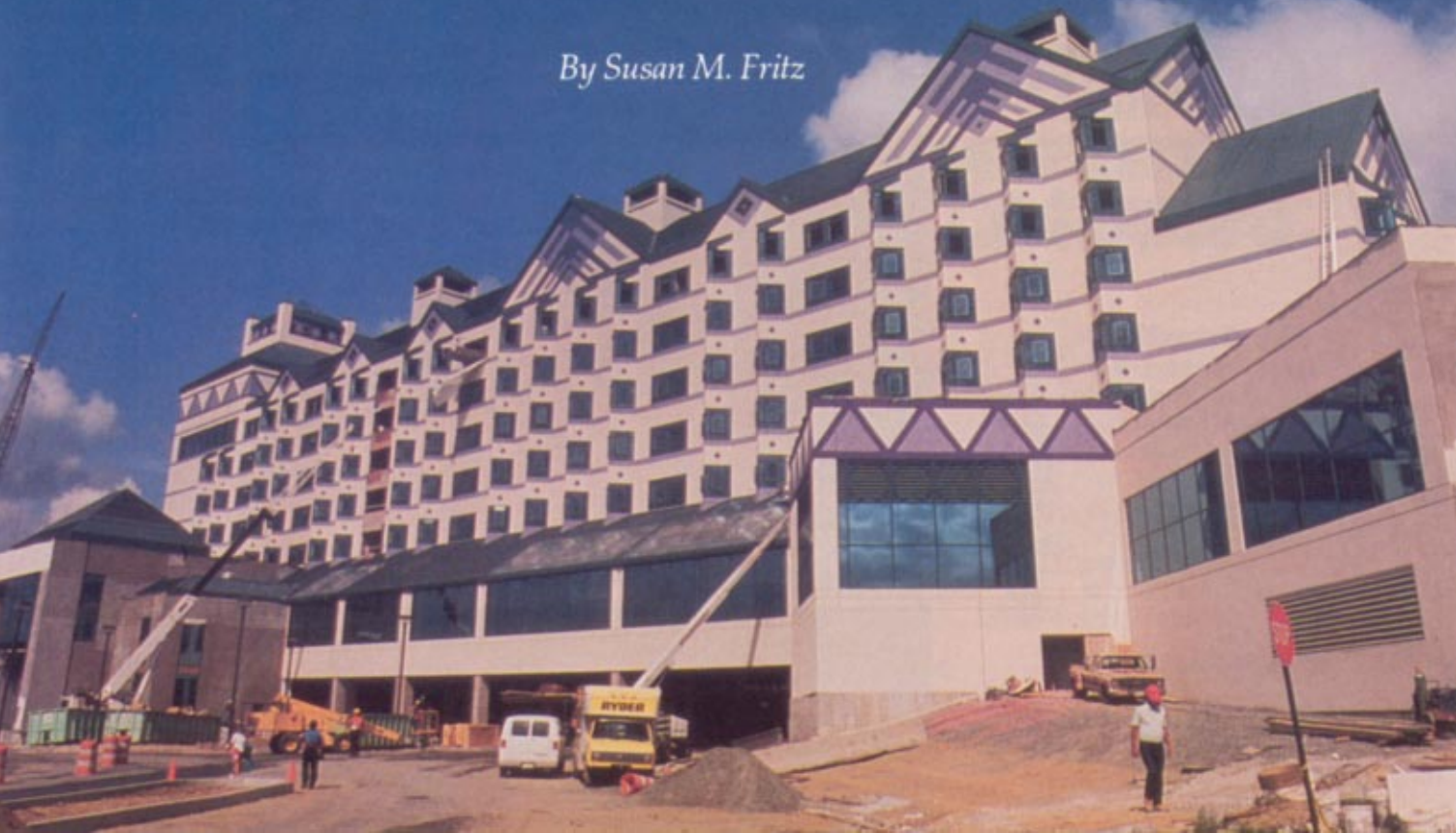


# Combined Sprayed Fire Protection Solution Proves Best for Pacesetting Casino Expansion

By Susan M. Fritz



*Foxwoods Casino and Hotel in Ledyard, Conn., under construction.*

**T**he highly visible Foxwoods Casino and High Stakes Bingo complex in Ledyard, Conn. had quickly earned a reputation for world-record profitability since its early-1992 opening; and its owners, the Mashantucket Pequot Indian Tribe, expected similar performance from the second gaming facility that it planned to open on its reservation.

Those expectations translated to an extremely aggressive construction timetable for a committed opening of Labor Day 1993. The fast-paced schedule for the new Foxwoods Casino and Hotel project demanded the utmost coordination and cooperation among Construction Manager C. R. Klewin, Inc. (Nor-

wich, Conn.) and all the trades-and the fireproofing of the structural steel became a challenging exercise in optimization for applicator JESMAC, Inc. of Providence, R.I.

By efficiently mapping resources to needs according to both specific job parameters and overall objectives, the contractor was able to complete a very complex job on time and at a savings over original in-place cost estimates.

Exploiting the benefits of a dual-technology approach proved to be the key to JESMAC's highly successful solution. In addition to the medium-density, wet-mix product specified by Jeter, Cook & Jepson Architects, Inc. (Hartford, Conn.)

for exposed parts of the project, elsewhere the applicator used an innovative dry-mix concealed fireproofing with comparable physical properties to the specified wet-mix product. The combination enabled JESMAC to employ all available equipment and personnel to maximum advantage.

Construction began in August 1992; and the scope of the 13 million-square-foot, \$240 million project completed over the next 13 months is testimony to the dimensions of the challenge faced by the entire building team. With a 46,275 square-foot casino as the centerpiece, the project also encompassed a 320-room hotel with a 4½-story, 1,600-car under-

ground parking garage and a family entertainment complex. In addition to a 360° cinedrome, which also partitions to become a night club, and a multi-directional turbo ride with 48 moving seats, performance venues include a showroom theater with a 1,500 seating capacity that attracted Frank Sinatra as its opening act in November 1993; this facility also converts to a 300-seat movie theater. A concourse connecting the facilities features

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10 stores, abundant kiosks, two major restaurants, a food court and a video arcade.

### ***Spray on Schedule***

Spray application of fire protection for the structural steel behind all these diverse elements began in December 1992 and continued through mid-August, just a few weeks before the Labor Day opening. Together with a two-shift operation six days a week-and sometimes more, judicious use of dry and wet-mix fireproofing was central to JESMAC's strat-



*JESMAC Project Superintendent Tom Percell points out sections of the hotel's upper levels to be sprayed in the final stage of fireproofing application.*



*Much of the structural steel in the hotel's upper levels remained exposed to the weather during the extended timeframe required to install its complex sloped roof system. The use of a dry-mix product with UL listing for exterior exposures helped to minimize the potential for water damage.*

egy for managing this fast-track schedule, which included spraying through the winter.

JESMAC President Richard J. Rudis explains, "Our ability to stay ahead of schedule was one of my biggest concerns. By using both kinds of fireproofing, we were able to have maximum flexibility to overcome any mechanical

breakdowns and avoid delays from access restrictions. The combination also allowed us to make the most efficient use of our work crews."

According to Rudis, maintaining multiple crews spraying each product also gave JESMAC added flexibility to take advantage of whatever "window of opportunity" each day's circumstances

presented. JESMAC crews and equipment were assigned each day based on site conditions and to increase efficiency wherever Possible. During the winter months, for example, spraying followed the concrete pour operation, which provided a heat source, as closely as possible; and with the trades close behind, moving crews in and out of each location promptly was always a priority.

This daily orchestration of resources was governed overall by JESMAC's assessment of the needs of each segment of the project. "To satisfy the owners' requirements for fireproofing, we had to deliver a cost-effective job that complied with code and was on time," says Rudis. "Fortunately, we had input in determining what product we thought would work best in each situation. We sprayed according to the parameters of the job."

### ***A Reason for Everything***

With much of the fire protection to remain exposed in the parking garage

and its stair towers, the possibility of impact or abuse prompted the specification and use of a medium-density wet-mix product for that location. The same solution was implemented for the facility's industrial-use Central Control Plant.

For the concealed applications elsewhere in the project, where a dry-mix system was favored, JESMAC used a product that afforded extra benefits for the winter weather conditions that prevailed during the early months of construction. CAFCO® Blaze-Shield® II sprayed fireproofing, which was supplied by fire-protection manufacturer Isolatek International, Stanhope, NJ., offered an unusual UL listing for exterior exposure, along with typical dry-mix handling characteristics that ensured fast, convenient application and easy clean-up. Recently reformulated, the product provided the necessary density in addition to bond and compressive strengths to satisfy the specified physical properties.



*For the hotel, casino and family entertainment areas of the project, the contractor introduced a fireproofing with comparable physical properties. Because of convenience, a dry-mix system was used*



*Above three photos: Scaffolding was used to apply the dry-mix fireproofing to the underside of the balcony seating area in the theater.*

JESMAC anticipated that Blaze-Shield® II's certified ability to withstand prolonged exposures to weather would be a particular benefit for use in the hotel structure. Rising from five to seven stories, the hotel features a sloped, seamless roof, and fire protection would likely be exposed directly to the elements during the extended installation period required for this complicated system. Because of relatively longer drying times that make wet-mix products more susceptible to wash-off, here the use of a cement-based dry-mix product minimized the potential for water damage.

Six months after the rest of the project was completed, the fire protection on one exposed pedestrian overpass gave testimony to Blaze-Shield® II's weatherability. The walkway will connect the theater area of the complex to a new bingo hall scheduled for the next phase of construction, at which time the structure will be enclosed and the steel columns, beams and

*With over an acre of open space to cover in the casino, the ability to spray the roof deck and bar joists without using scaffolding was a time-saver.*

decking covered. The fireproofing material remained exposed through the severe winter of 1993, yet it was able to withstand the elements.

### ***One-Step Process***

Blaze-Shield® II was also used in the theaters and concourse of the complex, as well as in the casino itself, where the relative application convenience and easy clean-up of a dry-mix system offered advantages both for keeping up with the fast pace and coordinating with the trades. Because water is added to dry-mix materials only at the spray nozzle, hoses do not have to carry heavy slurry mix, making them less cumbersome. Also, lightweight pole guns can be used for out-of-reach heights. As a result, with over an acre of open space to cover in the casino, the ability to spray the roof deck and bar joists without using scaffolding was a time-saver.

Scheduling was simplified by the additional ability to achieve required fireproofing thicknesses in a single spraying session. With steel members of varying sizes, this thickness varied from threeeighths of an inch to 2 inches to satisfy two-hour fire ratings through most of the complex. The wet-mix process, by contrast, typically requires application in layers, with time al-

lowance for drying between the layers.

Faster, easier clean-up also contributed to efficiency. Observes JESMAC Project Superintendent Tom Percell, "Especially in the winter months, dry material is easier to clean up; all you need is a broom. With all the trades working in close proximity because of the tight schedule, it was especially important to keep the worksite as clean as possible."

JESMAC's creative, dual-technology approach worked extremely well for the fireproofing of the new Foxwoods Casino and Hotel, meeting the expectations of both the applicator and C. R. Klewin, whose engineers approved Blaze-Shield® II as an alternative to the specified wet-mix product. Arif Siddique, director of project management for Klewin, commented, "Selection of this material has assisted significantly in meeting our schedule and budget needs."

For JESMAC's Rudis, the solution is one he would use again. "This was one

of the most successful fast-track projects I've ever seen," he concludes, "and we were able to keep the pace with a carefully designed fireproofing solution. The combination of techniques and products worked very well, and the addition of the dry-mix process turned out to be beneficial. This was our first experience with Blaze-Shield® II on a project of this size. It sprayed very consistently, which is an important measure of success for a relatively new product, and yields met our expectations. Its use made a strong contribution to the overall success of this project."

#### **About the Author**

Susan M. Fritz is marketing coordinator for Isolatek International's CAFCO® brand fireproofing, thermal insulation and sound control products. In addition to managing Isolatek's advertising and promotional activities, she participates in coordinating the company's field sales program, including contractor training and product application support. □