

Case Study: JM TPO system protects high-volume, fast-turn business of perishables



Description: This grocery-store pioneer from 1894 has today evolved into one of the nation’s leading food distribution and logistics companies, serving convenience stores, mass merchandisers, quick-service restaurants, drug stores and movie theaters. Inventory is received each night and ships out every day. WeatherSure, a fourth-generation roofing contractor specializing in restoration and waterproofing, had been servicing the roof for a decade when, as part of a formal bid process, they were approached to provide a condition assessment along with a bid to repair and renovate the 337,100-square-foot roof.

Challenges: The roofing solution needed to meet the needs of four distinct environments: a cold-storage section requiring a consistent 34°F; dry goods storage, where a weathertight environment was critical; occupied offices needing higher, controlled thermal values; and the transportation department housing a maintenance shop, wash bays and dispatch department. “There is no margin for downtime where foodstuffs are involved,” according to Darryl Lyon at McLane Western. “Expiration dates don’t roll back just because a problem surfaces. And we’d had a long history of leaks with our existing roof. We wanted to trade that situation for long-term protection and durability.”

Solution: WeatherSure’s recommendation was a cost-effective, durable single ply membrane – JM TPO 60. Its long-term weathering, UV resistance and heat-aging properties provided the ideal roofing system for this multiuse building and the Rocky Mountain environment of fierce sun, snow and hail.* Coincidentally, Johns Manville was about to start shipping the inaugural production run from its new TPO plant in Scottsboro, Alabama. When, during the bid development, Craig Garey discovered that McLane Western was a sister Berkshire Hathaway company to Johns Manville, he said, “it seemed to all come together for a perfect match.”

Officials at McLane Western must have agreed. After a thorough review of all bids, they awarded the project to WeatherSure, who “completed the repair, maintenance and renovation of the facility’s entire roof in three years instead of five and well within budget,” remarked Lyon. The insulation package and thermal values were retained; damaged insulation over the chiller was changed out; in other areas R-values were brought up; metal counterflashings and edges were pulled back for re-use and JM’s Invinsa Roof Board provided a new substrate for the entire project. “WeatherSure really watched our costs,” added Lyon. “The project turned out to be a whole lot more than a business transaction... a real relationship developed.”

Location:

Longmont, Colorado

Building Representative:

McLane Western

Darryl Lyon,
Vice President, Distribution

Contractor:

WeatherSure Systems, Inc.

Craig Garey, President
JM Peak Advantage® Pinnacle Council® Contractor

**Roofing System Solution: ST6RM
15-Year Peak Advantage® Guarantee**

ENRGY 3® Roof Insulation
Invinsa® Roof Board
High Load Fasteners and Plates
JM TPO 60 mil Membrane,
Mechanically Fastened

** See four-year outdoor performance results on page 2. (These are not simulated lab tests but actual real-world field samples tested to ASTM standards, demonstrating the aging attributes of a JM TPO roof.)*



JM TPO performance proven in real life, high-altitude conditions

McLane Western’s 60 mil TPO membrane was manufactured at JM’s Scottsboro, Alabama, plant and installed at their Longmont, Colorado, location in August 2008.

In the fall of 2012, after four years in the field, samples were taken from the McLane roof and tested to ASTM standards by an accredited third-party lab, PRI Construction Materials Technologies. The objective was to gather aging data from the real roof, not a lab-weathered test sample.

Test results exceeded ASTM testing requirements, underscoring JM TPO aging advantages in:

- Total thickness
- Seam strength of welded material
- Thickness over scrim
- Breaking strength and elongation

Following four years of high-altitude weathering with extreme temperature fluctuations and intense UV exposure, the McLane Western TPO roof continues to be a consistent performer. Seam strength was in no way impacted by aging or the environment. Rather, in the test cuts, seam strength exceeded ASTM minimums – a strong indicator of solid welds.

Breaking strength and elongation also far exceeded ASTM minimums, helping the membrane’s ability to withstand building and roof dynamics.

Once again, JM field tests verify the simulated aging tests used to predict a roof’s performance, ensuring continued trust in the JM brand.

Physical Properties*		ASTM Test Method*	ASTM Minimum Requirement	Four-Year Aged-Roof Test Cut / Fall 2012 JM 60 mil TPO
Strength	Breaking Strength	D751	220 lbf	401 lbf
	Tearing Strength	D751	55 lbf/in	88 lbf/in
	Linear Dimensional Change	D1204	Less than 1%	Pass
Longevity	Thickness	D751	60 mil ± 10%	59 mil
	Thickness Over Scrim	D7635	15 mils	32 mil
	Elongation	D751	15%	33%
	Ozone Resistance	D1149	Pass/Fail	Pass
Installation	Seam Strength	D751	66 lbf	224 lbf
	Brittleness Point (min. -40°F)	D2137	Pass/Fail	Pass

* As governed by TPO ASTM D6878.