

How the West Was Won

St. Frances DeSales School



New Versico Manufacturing Plant, Tooele, Utah



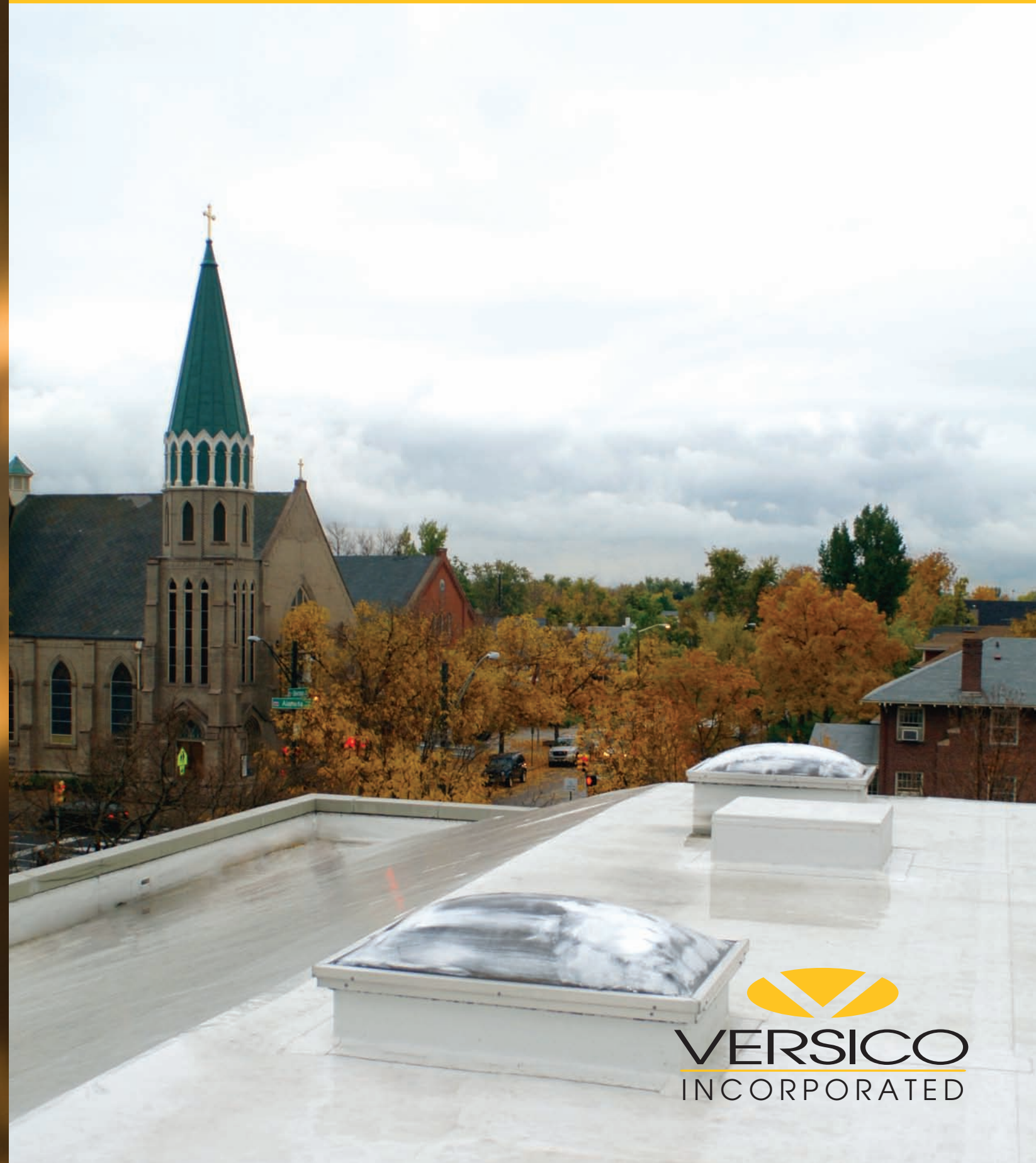
Cool Roof Ratings California Title 24



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Photos taken by Kelly Bradford Photography

St. Frances DeSales School

by Deanna Fryer, HJE Marketing

As the sun sets in the West, it is not just revealing a panoramic display of vibrant hues; it is also reflecting a growing number of white roofs. This new generation of white roofing has taken hold in the West and that can be attributed to the quality and performance of Thermoplastic Polyolefin (TPO) membranes.

Since the 1980s, the use of TPO membranes has experienced unprecedented demand in the construction industry. TPO's growth is a result of the membrane's ease of installation, its reflective and energy saving qualities and its cost effectiveness.

White roofs are now covering many city buildings, delivering substantial long-term energy savings from its reflectivity. This is particularly true in urban areas where urban heat islands are creating high-energy output for residents and businesses. Though TPO is used more often in new construction, renovation projects using white roofing membranes are equally important and growing in demand as building codes continue to change.

Many facilities in the western United States have used TPO for roof renovations to meet and exceed code requirements and have already reaped the benefits. One such facility, St. Francis DeSales Catholic Grade School, an inner city school in Denver, Colorado, was in need of a new roof after enduring years of leaks. School officials turned to Craig Garey, president of WeatherSure Systems, Inc., who recommended TPO roofing membranes from Versico.

Having used TPO for several projects, WeatherSure Systems, Inc. is familiar with the many benefits derived

from this roofing system. Garey, a fourth generation commercial roofing and waterproofing contractor, used a TPO roofing system for WeatherSure's office roof.

Based in Englewood, Colo., the company, which has been in business since 1994, specializes in the repair and replacement of commercial roofs and is familiar with many types of roofing membranes. "For many projects, we prefer using TPO rather than other products," stated Garey. "TPO is a product that has demonstrated great performance and will continue to do so for years to come."

Though many manufacturers offer TPO, only a select few can fulfill the growing demands in the western U.S. To date, a TPO plant has not existed in the western region—until now. Carlisle, Pa.-based Versico, Inc., and its parent company Carlisle SynTec, Incorporated, have made a joint effort to address the needs of buildings in the western U.S. by opening a 250,000 square foot TPO manufacturing plant in Tooele, Utah. The plant, slated to open in November 2005, will aid in the continued growth and demand for TPO in the West. "Carlisle and Versico are the first manufacturers to open a TPO production plant in the West," said Randy Ober, manager of product engineering at Carlisle SynTec, Incorporated. "To meet the growing needs of the western part of the country, this new manufacturing facility will allow us to produce more membrane and reduce shipping time and costs to this roofing community."

The St. Francis DeSales' roof is certainly part of that growing need in the west. To the eye, the symptoms of the bad roof were apparent; open laps and penetrations in the system were just a few of the problems that the existing

roof had encountered. First, there were small leaks, which were patched in an attempt to cover the problematic areas. Years of weathering and snowfall finally caused the roof's primitive patches to disintegrate, turning the roof into a complete failure. With time, the building became exposed to the elements, causing excessive flooding in the gymnasium, ruining its hardwood floors.

There was no question that the school's existing built-up roof, already at its peak at the age of 12, could no longer perform. To effectively repair the roof, the school consulted architect, Jim Paull, of JP Architecture in Denver and contacted WeatherSure Systems, Inc. to renovate the roof system over the school's classrooms and the gymnasium.

"The roof was beyond the point of maintenance; it needed to be completely renovated," said Jack Michael, project manager of WeatherSure Systems, Inc.

With a list of concerns, including-budget, energy efficiency and performance in mind, WeatherSure Systems, Inc., recommended using Versico's 60-mil TPO Fully-Adhered and Mechanically-Attached systems.

The WeatherSure crew removed the dilapidated built-up, torch-applied roofing system from the entire school roof. The crews then installed VersiWeld Fully-Adhered TPO on the gymnasium, which had a gypsum and form board deck, and VersiWeld Mechanically-Attached TPO on the classroom sections that had a wood deck.

Over the classroom section, sheets of TPO were mechanically attached every 12 inches with round corrosion-resistant steel plates. "The wide sheets are advantageous for contractors to install the system faster," Michael stated. "The system also requires fewer seams, which can be vulnerable to leaks."

In addition to the ease of installation, VersiWeld is also beneficial because of its exceptional fire and wind ratings. VersiWeld is a UL Class A fire rated, which ensures exceptional fire protection.

This TPO membrane is also ideal for areas that are vulnerable to wind. This membrane features FM uplift values of 1-60, 1-90, 1-120 and 1-135. It remains secured to the roof even under Denver's extreme weather conditions.

With any project, there are always challenges that must be recognized and addressed. The school building featured a flat surface with several mechanical units and a paved walkway, making the durability of the membrane and its accessories critical to the roof installation.

Unlike the school building's low slope, the connected gymnasium featured a sloped 20-foot cathedral roof with a flat top with smaller mechanical units throughout.

Tapered insulation was installed on the gymnasium roof to create positive drainage, avoiding the threat of ponding. Upon the project's completion, the crew had heat-welded close to 28,000 square feet of TPO to the gym and school roof.

With a roof of any capacity, it is important to use a system that avoids complicated installation methods. TPO membrane is an example of a clean application because it does not involve the use of any primers or sealants. Michael admitted that a major benefit is that, "TPO doesn't depend on messy adhesives or seam tapes. The application was done while school was in session, and it didn't impact school operations."

"Versico and Carlisle SynTec's manufacturing facility in Utah will make projects like the St. Francis DeSales Catholic Grade School even easier"

Another critical aspect is the acceptance of TPO as a compliant roofing material for California's Title 24 and the western states' cool roofing initiatives. As an ENERGY STAR® rated product, VersiWeld TPO has been successful in many high profile industrial and commercial projects in the country. TPO's energy and environmental benefits have led to its national growth.

According to the Rosemont, Ill.-based National Roofing Contractors Association's (NRCA) 2004-2005 Market Survey, out of the 517 roofing companies that replied, TPO represented nearly ten percent of roofing sales and is projected to increase in 2005. For many, the growth is a reflection of recently enforced codes.

With Title 24's inception and the Cool Roof Rating Council's (CRRC) integral advocacy with the roofing industry, roofing contractors are being proactive by using TPO membranes for commercial and residential renovation projects. White roofing is a hot trend that is becoming one of the most important components of promoting cool roofing.

As a result of that trend, TPO membranes consume a major portion of many contractors' annual projects. "Versico and Carlisle SynTec's manufacturing facility in Utah will make projects like the St. Francis DeSales Catholic Grade School even easier," concluded Garey. "TPO products will be readily available for the growing number of projects in the West."*