



Profession

A NEW ERA

Fred Ribble returns to the roofing industry as MCR's new CEO

ARTFULLY EXECUTED ROOFING

CASTRO ROOFING RENOVATES MULTIPLE ROOF SYSTEMS ON THE OWEN ARTS CENTER IN DALLAS

Southern Methodist University's Meadows School of the Arts is a tree-lined urban oasis 5 miles from downtown Dallas, home of the U.S.' largest contiguous arts district. The school educates visionary artists, scholars, and arts and communications professionals who are "prepared to create sustainable and transformative impacts on local and global society."

The Owen Arts Center is located within the Meadows School of the Arts campus. Designed by architect George L. Dahl, Owens Arts Center has three main buildings: Mudge Art Building, Forbes Music Building and the Ruth Sharp Collings Drama Building. Owen Arts Center is home to dance, music and theater performance and rehearsal spaces, art galleries and studios, administrative offices, and the departments of Art History, Arts Management and Entrepreneurship, Dance, Music and Theater.

Students participate in lectures, film screenings, set construction and music lessons and take advantage of opportunities to form relationships and collaborations across many art forms. The inspiring and challenging environment is designed to create "a nexus of energy, creativity and commitment."

During 2014-15, the Owens Arts Center's 107,900-square-foot roof with multiple roof systems underwent renovations by Castro Roofing of Texas, Dallas.

TEAR-OFF

In October 2014, Castro Roofing began work on the Owens Arts Center, which involved 18 roof elevations and various roof systems.

On a 5,300-square-foot roof area, workers tore off composition shingles down to a structural wood deck. On a 102,600-square-foot roof area, workers removed the existing polymer-modified bitumen and coal-tar pitch roof systems down to several decks consisting of lightweight insulating concrete, structural concrete and 22-gauge metal.

Multiple metal deck areas contained phenolic insulation, a corrosive insulation that when wet easily can cause metal deck deterioration.

"Fortunately, the metal deck areas with phenolic insulation were painted," says Rudy Rodriguez, CEO of Castro Roofing. "Therefore, no discernible damage was identified at these areas at the time of tear-off activities."

As a result of improper installation and leak repairs to the coal-tar pitch, including the use of asphaltic materials and leaving felts exposed to the sun, the coal-tar pitch roof system failed prematurely.

"This is a lesson learned for commercial building owners and managers not only to qualify the skill and experience level of a roofing company, but more important, qualify the crews actually doing the work," Rodriguez says.



According to Rodriguez, the coal-tar pitch roof system was particularly difficult to remove, and the material presented safety challenges.

“As the coal-tar pitch roof system was removed, it generated irritating airborne particles,” he says. “Accordingly, our workers wore special safety gear, such as pitch masks, to protect themselves from the irritants.”

SAFETY

As with any roofing project, safety was an integral part of Castro Roofing’s work on the Owen Arts Center. In addition to wearing special safety gear to handle the coal-tar pitch, Castro Roofing regularly scheduled on-site toolbox talks, and safety meetings were conducted throughout the duration of the project. Foremen took the lead to administer the safety meetings and make recommendations regarding upcoming portions of work.

A third-party, job-specific safety plan also was implemented, and no accidents or injuries occurred the entire time the Castro Roofing team worked on the project.

“The whole Castro team is extremely safety-minded,” says John Hemenway, project manager for Southern Methodist

University. “Often during my project inspections, I would encounter the safety supervisor doing on-site safety checks.”

LOGISTICS

In addition to safety issues, the Owens Arts Center is surrounded by a street and other buildings, limiting the material staging area to one 400-square-foot location for lowering debris and raising materials. For such a large roofing project, this required considerable effort by the Castro Roofing team to coordinate deliveries with the building owner, roofing suppliers and manufacturers. Because of the multiple roof areas and heights, materials were double- and triple-handled and hand-carried long distances before reaching the staging area.

Heavy vehicular and pedestrian traffic in and around the staging area also presented logistical difficulties. One particularly difficult task was removing full dumpsters and replacing them with empty dumpsters.

“In some instances, the dumpster company wanted to leave without performing the dumpster swap-out because of the patience required to accomplish the maneuver,” Rodriguez says. “We also had difficulty with professors and students attempting to



Project name: Southern Methodist University's Owen Arts Center
Project location: Dallas
Project duration: October 2014–February 2015
Roof system types: Composition shingles; polymer-modified bitumen
Roofing contractor: Castro Roofing of Texas, Dallas
Roofing manufacturers: GAF, Parsippany, N.J.; SOPREMA Inc., Wadsworth, Ohio
Gold Circle Awards categories: Outstanding Workmanship: Low-slope; Safety

Clockwise from top: Castro Roofing workers remove an existing coal-tar pitch roof system from a 102,600-square-foot area; a worker lays new polyisocyanurate insulation; workers torch new base and cap sheets; an aerial view of one of the new polymer-modified roof systems; a worker installs a new polymer-modified bitumen membrane.

enter restricted areas even though these areas were clearly marked. We took great care to ensure the safety and well-being of all pedestrians walking near the construction site.”

One area located in the middle of the school’s roof could not be reached by crane, so a chute was constructed to lower debris to another level where it was hand-carried to the debris-lowering site. A long ladder also was used from one roof level to another level because there was no interior access via roof hatch. For this elevated roof area, a hoist was used to raise the needed materials.

NEW ROOF SYSTEMS

Once the tear-off processes were complete, the Castro Roofing team began installing the new roof systems.

On the wood roof deck, workers installed new underlayment and GAF Slateline® Shingles.

On the lightweight concrete areas, workers installed a new SOPREMA® polymer-modified bitumen roof system composed of a mechanically attached base sheet, a torched base sheet and a torched cap sheet.

On the structural concrete and metal decks, workers installed a new SOPREMA polymer-modified bitumen roof system composed of mechanically attached polyisocyanurate insulation, SOPRABOARD, a torched base sheet and a torched cap sheet.

In addition, workers removed and replaced 54 of the 78 skylights, and all the lightning protection cables were removed, cleaned and reinstalled.

“Because coal-tar tends to soften during hot weather, the existing lightning protection cables were dug into the pitch flood coat and were surrounded by the pitch,”

Rodriguez says. “We carefully removed more than 5,000 linear feet of lightning protection and meticulously cleaned every cable to remove the coal-tar before reapplying the cables on the new roof systems.”

A WORK OF ART

Despite difficult tear-off, safety and logistical challenges, and working with complex roof elevations and multiple systems, Castro Roofing completed its work three weeks ahead of schedule in February 2015.

“Our expectations were quite high for this project, and everyone at Castro Roofing conducted themselves in a professional manner,” says Gerard Lopez, Southern Methodist University’s senior zone manager, office of facilities planning and management. “The company’s part in providing a new roof for our center was crucial to the continued use and operation of the facility, and Castro Roofing’s quality of workmanship surpassed our every expectation.”

For demonstrating exceptional workmanship and safety measures, Castro Roofing received a 2016 Gold Circle Award in the Outstanding Workmanship: Low-slope category and a 2016 Gold Circle Safety Award.

Rodriguez is honored his company received the awards but says the project’s success is a result of the efforts of everyone working at Castro Roofing: “Our entire team from the office and design assistance staff to the sales and operations team members overcame major challenges and project complexities to meet our purpose—to deliver peace of mind to the customer.” 🏆👷

CHRISTINE ELLE HANUS is *Professional Roofing’s* associate editor and NRCA’s director of communications.