

CASE STUDY

Sullivan Roofing is the premier commercial roofing contractor in Chicago and its surrounding suburbs, northern Illinois, southern Wisconsin, and northwest Indiana. From new construction to renovations, Sullivan Roofing specializes in the installation and repair of low-slope roofing systems, including PVC, TPO, and EPDM.

JOB PROFILE

PROJECT NAME:

Fashion Outlets of Chicago

SQUARE FOOTAGE:

390,000
New construction

START DATE:

July 2012

COMPLETION DATE:

May 2013

ROOFING CONTRACTOR:

Sullivan Roofing, Inc.
(Schaumburg, IL)

MEMBRANE:

Carlisle SynTec Systems
80-mil Sure-Flex PVC

GENERAL CONTRACTOR:

Power Construction Company, LLC.

ARCHITECT:

KA, Inc.

CONSULTANT:

Benchmark, Inc.



Fashion Outlets of Chicago



Sullivan Roofing, Inc. knew from the outset that installing the roof on the Fashion Outlets of Chicago would be a challenging job. Aside from the facility being large (nearly 400,000 square feet), there are 11 different roof areas that required a variety of assemblies. In addition, there are hundreds of penetrations from HVAC units and skylights atop the roof. The vast C-shaped building, which houses restaurants and high-end retail outlets, is located less than a mile from Chicago's busy O'Hare International Airport.

ADVANTAGES OF PVC

The roofing professionals at Sullivan encouraged their client to choose a Carlisle SynTec Systems mechanically fastened .080 white Sure-Flex™ PVC system. PVC was selected for a number of reasons, including its long service life, superior resistance to punctures and tears, and exceptional seam strength. PVC can be installed quickly and in a wide variety of temperatures, advantages that were critically important on this ten-month-long project.

Once installed, PVC retains its flexibility and can withstand extreme temperature fluctuations, which is essential in a place with harsh winters like Chicago. PVC also offers the best resistance of any single-ply membrane against fire, grease, animal fat, oil, jet fuel, and chemicals. Fuel- and chemical-resistance were crucial since the Fashion Outlets are located so close to O'Hare Airport, and grease- and animal fat-resistance were essential for this facility that would be home to almost 20 restaurants.

LABORSAVING PRODUCTS HELP KEEP TIMELINES ON TRACK

In addition to laborsaving PVC, Sullivan also chose to use SecurShield HD™ Composite Polyiso in a continuing effort to complete this complicated project within its tight timeline. SecurShield HD Composite combines SecurShield HD ½" high-density 100 psi Polyiso cover board with SecurShield rigid 20 psi Polyiso roof insulation. SecurShield HD Composite is manufactured online, resulting in a monolithic panel that is much stronger than laminating the two products together. SecurShield HD Composite requires far less material

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handling and labor than are required when installing polyiso and cover-boards separately and also offers high resistance against wind, foot traffic, hail, mold, and moisture. Sullivan also utilized tapered Polyiso so the roof would drain properly, and saddles on the outside walls.

After installing the insulation and PVC membrane, Sullivan's roofing professionals went to work on flashing the Fashion Outlets' more than 11,000 lineal feet of curbs and portals. For this potentially time-consuming task, Sullivan chose to use custom-made prefabricated PVC accessories, as opposed to flashing all the penetrations by hand. Once again, the contractor chose to use laborsaving products which would help keep the job's timeline on track, including:

- 1,620 custom-fabricated corners
- 64 custom-fabricated 15"x15" portal curb flashings
- 600-plus split pipe boots
- 149 PVC walkway rolls
- 100-plus VTR pipe boot flashings
- 1,000-plus mid-roof air terminal pads for the building's lightning protection system.

When the job was completed, it was inspected by a Carlisle field service representative. Sullivan Roofing's skill and quality workmanship were obvious during the inspection and the Fashion Outlets received a 25-year total system warranty on their roof. It is a credit to both the contractor and Carlisle's products that this large and complex project was completed in just ten months.

FASHION OUTLETS OF CHICAGO – BY ROOF AREA

Roof Type A (Main Roof): Sloped minimum 22-gauge steel deck

- 8-mil Polyethylene vapor barrier
- 1 layer 1.5" thick 4'x8' flat HP Polyiso
- ¼" per foot slope tapered HP Polyiso
- ½" per foot slope tapered Polyiso saddles/crickets
- 1 layer 2" thick 4'x8' SecurShield HD Composite
- For insulation and membrane attachment - Accutrak Fasteners / plates, ASAP® fasteners with steel plates, HP-X Fasteners™, and Rhinobond® plates
- Carlisle SynTec Systems .080 white Sure-Flex PVC membrane

Roof Type B (Vestibule Areas): Sloped minimum 22-gauge steel deck

- 8-mil Polyethylene vapor barrier
- 1 layer 1.5" thick 4'x8' flat HP Polyiso
- ½" per foot slope tapered Polyiso saddles/crickets
- 1 layer 2" thick 4'x8' SecurShield HD Composite
- For insulation and membrane attachment – HP-X Fasteners and Rhinobond plates
- .080 white Sure-Flex PVC membrane

Roof Type C (Northwest Tower): Sloped minimum 22-gauge steel deck

- 1 layer 5/8" thick 4'x8' Dens Deck® Prime
- For insulation attachment – ASAP Fasteners with steel plates
- .080 white Sure-Flex PVC membrane
- Membrane is fully adhered

Roof Type D (Canopy Areas): Flat minimum 22-gauge steel deck

- ¼" per foot slope tapered HP Polyiso – 1.5" minimum
- 1 layer ½" Dens Deck 4'x8' boards
- For insulation and membrane attachment – HP-X Fasteners and Rhinobond plates
- .080 white Sure-Flex PVC membrane

Roof Type E (Small Stair Area): Flat minimum 22-gauge steel deck

- 8-mil Polyethylene vapor barrier
- 1 layer 2.5" thick 4'x8' flat HP Polyiso
- ¼" per foot slope tapered HP Polyiso – 1.5" minimum (installed at top of stair roof only)
- 1 layer 2" thick 4'x8' SecurShield HD Composite
- For insulation attachment – ASAP Fasteners with steel plates
- .080 white Sure-Flex PVC membrane
- Membrane is fully adhered