

SarnaProof



BUILDING TYPE: Historic High-rise Office Building

Project:
 The Candler Building
 220 West 42nd Street
 New York, NY

Building Owner:
 Cornerstone Real Estate

Roofing Contractor:
 Tuckahoe Metal & Roofing Co., Inc.,
 a generalRoofing Company

Architect:
 Swanke, Hayden & Connell Architects

Manufacturer:
 Sarnafil Roofing & Waterproofing
 Systems

Roof Area: 6,500 Sq. Ft.

System:
 Adhered-Aesthetically enhanced
 with Sarnaclad coated metal battens

Roofing Membrane: G410 72 MIL

Custom Color: Pacific Turquoise

THE CHALLENGE:

The Candler building is located within the busy Times Square renovation district. It was first brought to fame by its featured Hollywood prominence in the original Superman movie. Dating back to the turn of the century, this ornamental 25-story building was originally constructed of brick and terra cotta on steel. The terra cotta sloped roof was crowned by a cupola. Since the Candler building is located on the same street and within view of the Chrysler Building, the new building owners decided to join forces with the surrounding businesses to beautify the district.

THE CHOICE:

Tuckahoe’s staff of architects and support professionals in consultation with Sarnafil’s material specialists designed the Candler Building roof system. It was designed to look like a

batten seam copper roof. Tuckahoe Metal & Roofing was awarded the difficult responsibility of restoring the original, cosmetically critical roof. This included the monumental task of straightening the lines of the battens and matching custom manufactured skylights. Because of the inaccessibility of the roof without the use of scaffolding, it was decided that a roofing material, which simulated copper, be used. The material would have to be easily maintained and have a long design life. This required a custom colored roofing material be manufactured to achieve the desired effect. Sarnafil’s custom colored thermo-plastic adhered roofing system with matching Sarnaclad metal battens was selected.



Several factors influenced the selection of the Sarnafil adhered system. First, Sarnafil membranes have an enviable track record of over 40 years of exposure history around the world under extreme conditions. It was particularly important that the company's hot air welded, single-ply roofing membranes be manufactured with the same formulation for that entire period – far longer than any other system. A factory applied acrylic coating on the exposed membrane surface to enhance long term aesthetics was also a consideration.

Sarnafil's G410 72 mil, custom colored Pacific Turquoise membrane was selected. It is a perfect solution for pitched roof applications supported by concrete decks. Sarnafil membranes require minimal maintenance, have exceptional dimensional stability based on a low coefficient of thermal expansion, and provide a long service life while adding minimal weight to the deck. The membranes are formulated for direct exposure to the weather and resist staining from airborne dirt and pollutants because of the acrylic coating applied during the manufacturing process.

THE SOLUTION:

Because of the dangerous heights and steep slopes of the roof, special scaffolding had to be installed to create a safe workplace. This included supporting the weight of all materials as well as providing a sturdy platform to hoist material from the 21st floor to the roof. High winter winds at dizzying 200 ft. heights compounded the extreme difficulty of handling the materials on the steep angle while adhering the material to the insulation.

Specially trained Tuckahoe roofing professionals installed the roofing membrane during the winter of 1997. Before work could begin on the new installation, several tons of the old tile



roofing had to be removed and lowered through the building. An uneven deck of old cinder concrete and terra cotta tile was first smoothed. Then 1" Sarnatherm insulation boards were secured to the roof deck. After securement of the insulation to the deck, the roofing membrane was adhered with Sarnacol adhesive and pressed into place with a water-filled foam covered lawn roller. The roofing membrane was then hot-air welded together using Tuckahoe's hot air welding equipment.

The next step was to install prefabricated battens produced in Tuckahoe's fabrication facilities. The battens were fastened to the deck through specially made pedestals. To correct the original roof irregularities,

the battens had to be carefully laid out to achieve straight lines up and over the highly visible hips and ridges.

Both Sarnafil and Tuckahoe feel privileged to have played a part in the renovation of the Times Square area. Superman would be proud to leap over the Candler Building in a single bound.