



Philadelphia (Pennsylvania)

THE MET PHILADELPHIA

REPAIR MORTARS AND A CUSTOMIZED COATING HELPED TO REVIVE A HISTORIC THEATRE

In 1908, when the massive building opened, it was the largest theater of its kind in the world. Home to the Philadelphia Opera Company and built by the company's owner, Oscar Hammerstein I (grandfather of the famed composer Oscar Hammerstein III), the Philadelphia Opera House was the sparkling jewel in Philadelphia's thriving arts community. In 1910, the Hammerstein family sold the Opera House to the New York Metropolitan Opera. Renamed as the Philadelphia Metropolitan Opera House, the beautiful Classical Revival theater with superior acoustics continued to draw crowds of music lovers.

Film killed the opera diva

By the 1920s, the crowds were clamoring for a new art. The theater adapted and began showing silent films as well as staging operas. After the US Stock Market Crash of 1929 and the ensuing Great Depression, interest in the theater waned. Opera performances declined at the theater and eventually ended. The films moved to their own "palaces" (movie theaters) built especially for the exhibition of motion pictures. The Metropolitan Opera House building briefly became a public ballroom. Next, it was purchased by a sports promoter who turned the orchestra pit into a basketball court.

Finally, in 1954, the building became a church designed to minister to the needs of the surrounding neighborhood, whose fortunes had also declined along with those of the venerable theater building.

Although it was officially added to the U.S. National Historic Registry of Places in 1972, by the late 1980s the Opera House was all but abandoned and had begun to deteriorate. In 1996, it was in danger of demolition by the City of Philadelphia. The building was saved when another church, this time the Holy Ghost Headquarters Revival Center, purchased the property and began renovation efforts.

In 2017, Holy Ghost Headquarters and developer Eric Blumenfeld established a joint ownership agreement and large-scale renovation efforts to begin restoring the building to its former glory, now rebranded as The Met Philadelphia.

Mapei products on the jobsite

"Blumenfeld is the developer who is playing a large role in the revitalization of Philadelphia's N. Broad Street area," said David Marofsky, Concrete Restoration & Waterproofing Specialist for Pennsylvania, Ohio, Delaware and Southern New Jersey at Mapei Corporation (the U.S. subsidiary of the Group). "He knew the building's history and its importance to the neighborhood. He wanted to be sure that it was faithfully restored."

As part of the larger N. Broad Street area renaissance, Blumenfeld worked with Culbertson Restoration Ltd. and their highly trained crews of waterproofing and exterior façade restoration experts. For this project, he was joined by superintendent Mike Kirchhoff and project manager Mark Meighan. "Historic renovations are one of our specialties," Kirchhoff said. "It has been great to see this area of town coming back to life."

For the Metropolitan Opera House building, that resuscitation – on the building's exterior – came with help from Culbertson and Mapei Corp. "Mapei was involved very early on in the specification process," Marofsky said. "We worked with the owners and with Culbertson for a little more than a year before construction actually started in the Fall of 2017. The repair mortars were easy. We wanted to get the exact right color and texture of the coatings."

Kirchhoff concurred. "The existing original coating was a cementitious type, and not all of it would be removed. We wanted to be sure to match its color and texture with the repaired pieces. That meant that we needed a coating that had a sandier texture than the existing coatings that we were looking at."

Mapei has a solution for every problem... and can create a new product solution if needed, according to



1, 2. Several concrete repair solutions by Mapei were used on different areas of the building, before applying ELASTOCOLOR TEXTURE coating.
3. Thanks to Mapei products, the MET has been restored to its original glory.

Rankin Jays, Mapei Corp.'s Business Development Leader – Coatings. "We were in the throes of developing a heavier-textured coating," he added, "and this project came along at the right time."

Mapei Corp.'s Research & Development lab in Deerfield Beach (Florida, USA) worked with Jays, Marofsky and Kevin Smith, Mapei Corp.'s Director of Concrete Restoration Systems (CRS), to find the exact right color and texture to match the specifications for the historic building. The resulting product was ELASTOCOLOR TEXTURE, a water-based, acrylic, high-performance textured coating.

"The lab worked quite hard to push it through," Jays said.

ELASTOCOLOR TEXTURE was designed to be the topcoat on several repairs utilizing Mapei Corp.'s products for concrete repair. "We had a wide variety of concrete repairs on that façade," Kirchhoff explained. "Repairs ranged from brick patch work to replacement, cement cornice repair and/or replacement and concrete repair – in some instances there were exposed steel members." The building's intricately detailed cornices had been originally created from shaped plaster that was poured over a brick foundation. "The cornices form a band of poured concrete around the building and there are three different types of cornice profiles," Kirchhoff said. "Each floor has its own cornice band. This means there is a top cornice, a middle cornice and a bottom cornice."

For repairs in the larger areas of the

band, the Culbertson crew used PLANITOP 15, a one-component, cementitious, fibre-reinforced repair mortar, manufactured and distributed on the U.S. market by Mapei Corp. "This created a surface that is very smooth, almost like glass," Kirchhoff stated. "For the smaller, more intricate areas where the cornices have fine details, we used PLANITOP X or PLANITOP XS depending on the working time needed." PLANITOP X is a one-component, fast-setting, fibre-reinforced, vertical and overhead repair mortar, while PLANITOP XS provides the same properties with an extended working window. Both products are manufactured and distributed on the U.S. market by Mapei Corp.

Because the building had fallen into such a state of disrepair, the façade needed some extra care. "There were areas where we were repairing rebar, to the there were sections where actual steel members were exposed," Kirchhoff said. "The steel members were blast-cleaned to the NACE No. 2 / SSPC-SP 10 standard for Near-White metal." They were then protected with MAPEFER 1K one-component corrosion-inhibiting cement mortar and then covered with PLANITOP X or PLANITOP XS. This was topped by using ELASTOCOLOR coating system. "The lab color-matched the existing colors perfectly," Marofsky said. "The repaired brick work was coated with ELASTOCOLOR COAT in gray, and the concrete was coated with ELASTOCOLOR TEXTURE in a light gray. This is the application of the ELASTOCOLOR

TEXTURE that was developed specifically for the project." When asked about the project's biggest challenges, Kirchhoff does not mention finding and developing the coating. Both he and Marofsky agree that Jays and the Mapei Corp.'s R&D team in Deerfield Beach made the process easy. "Blasting while working around trades and scheduling the scaffold were the main challenges on this project," Kirchhoff recounted. "The blasting itself wasn't the issue. It was the scheduling. Working around the other trades on the enclosed scaffold and actually getting time was not easy. The scheduling was so impacted, and the scaffold was so busy because this was one of the wettest seasons we'd had – in fact, I think it

was the wettest in recent history. So, working with the GC for access around all the other teams was a bit of a challenge for us all." The Met Philadelphia is now back in business as a mixed-use venue, housing Holy Ghost Headquarters and Live Nation concerts. The reincarnated space officially opened on December 3, 2018, with a concert by folk legend Bob Dylan. And as the spotlights turned on, the façade was once again lit up in all of its Classical Revivalist glory, thanks to the Culbertson crew and Mapei.

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Problems and solutions

In order to help repair and restore this Classical Revival style building to its original glory, Mapei Corp.'s concrete restoration products were used extensively to restore the façade. And working with the owners and historic conservators, the U.S. subsidiary of the Group developed a new coating product: ELASTOCOLOR TEXTURE. This allowed the Mapei team to meet the challenge of creating a new high-performance coating to match the texture and color of existing historic coatings.

MAPEFER 1K

One-component, corrosion-inhibiting, cement mortar for the protection of reinforcing rods.

FIND OUT MORE



TECHNICAL DATA

The Met Philadelphia, Philadelphia (PA, USA)

Year of construction: 1908

Original design: William H. McElfatrick

Period of the Mapei

intervention: 2017-2019

Intervention by Mapei:

supplying products for concrete repair, protecting

and reinforcing rebar, and for coating façades

Client: Holy Ghost Headquarters and Eric Blumenfeld

Design: Atkin Olshin Schade Architects (AOS Architects)

Contractor: Culbertson Restoration Ltd.

Mapei distributor: Thoro System Waterproofing

Mapei coordinators: David Marofsky, Joe Markert, and Rankin Jays, Mapei Corp. (USA)

MAPEI PRODUCTS

External concrete repairs: Planitop 15*, Planitop X*, Planitop XS*

External rebar and steel member repairs: Mapefer 1K

Wall coatings: Elastocolor Coat, Elastocolor Texture

*These products are manufactured and distributed on the U.S. market by Mapei Corp.

For further information on products see www.mapei.com