

CASE HISTORY

PROJECT: *ST. FRANCIS DE SALES ROMAN CATHOLIC CHURCH, PHILADELPHIA, PA*

Scope of Work: Support Drum wall of dome and create a support system for installation of new dome drainage system

The church cornerstone was laid in 1907, the Guastavino tiled dome of the de Sales parish has been an icon in its neighborhood. The de Sales parish was designed by Philadelphia architect Henry D. Dagit, built in the Byzantine Revival style and incorporates a Guastavino tile dome modeled on that of Istanbul's Hagia Sophia and elements of the Arts and Crafts movement which was at its peak when the church was built. The tile arch system, designed by the Raphael Guastavino Co. in 1911, is one of the best examples of the company's work in Philadelphia.



The tile on the main dome was falling so the original gutter system around the dome needed to be replaced. In the removal of original the gutter system it was determined that the terra cotta supporting system was insufficient to carry expected loads and was not cost effective to remove since it was connected to drum wall of the dome. Note: Picture below, which has the multi wyeth brick drum wall then a 18" void space connecting to the multi wyeth wall by the terra cotta spanning the void section. The 18" between the inner and outer wall is where the gutter system is located.

In order to support the inner and outer wall and give support to the gutter area a custom Cintec anchor was designed to be attached to both walls and support the gutter area. A 3" hole is core drilled from the face of the outer wall through the void and then 6" is core drilled into the drum wall of the dome. The anchors with 3 "socks are inflated in both walls only. Picture A. Shows the actual anchor installed in place in the drum wall. Furthermore; there is no sock on the anchor body in the void space. Then a 2" hole is drilled from the top of the void space to allow an anchor to be dropped into the hole and rest as a saddle on the ½" exposed stainless steel threads. Picture B. This anchor with a 3" sock is inflated to 4" in diameter which rises up and acts as shelf support to the terra cotta. A total of 214 of this anchor design were installed in the dome.



Picture A

Picture B

OWNER: Archdiocese of Philadelphia

CONTRACTOR: Knapp Masonry

ARCHITECT: Historic Building Architects

ENGINEER OF RECORD: Robert Silman Associates