

SIKA AT WORK

Integrated protection of a preserved
building façade, Athens

Sikagard® Clean & Protect product range

PROTECTION: Sikagard®-730 Concrete protect Plus, Sikagard®-907 W, Sikagard®-790
All-in-One Protect, Sikagard®-850 AG

BUILDING TRUST



HISTORIC BUILDING FAÇADE PROTECTION AGAINST PENETRATION & GRAFFITI



PROJECT DESCRIPTION

The project concerns a 5-storey, 1.720m², 20th century historical building in the center of Athens. In 1982 it was described as "a work of art requiring special protection" and was declared preserved, following a decision by the Ministry of Culture. This beautiful neoclassical building has a special architectural interest due to the simple and symmetrical façade layout.

Due to aging and serious damage caused by the 1999 earthquake that struck Attica, a thorough study of rehabilitation processes was required, in order to become fully operational and exploitable. Part of the restoration works involved:

- Maintenance of marble, coatings, stained glass, lighting fixtures, e.t.c. of the façade
- Protection of marble and artificial coating substrate

APPLICATION DEMANDS

The facade of the preserved building consists of two main sections:

- The lower part on which white marble tiles (Dionysus type) are placed
- The upper part with artificial coating

Ageing, atmospheric pollution, natural phenomena, vandalism, aesthetical deterioration and the historical significance itself have created the need for holistic approach and complete protection of the main facade of the building.

The main axes of the holistic approach for the artificial coating artwork were:

- Integrated & long-term protection against water penetration and air pollutants.
- Protection against pre-printed letters and / or drawings (graffiti) and posters on the lower part of the face.
- Application of appropriate protection systems **without** changing the final appearance of the building facade.

SIKA PROPOSAL

Based on the application requirements and the substrate types (Dionysos marble & artificial coating) the following 3 facade protection systems were proposed:

- Marble surfaces on the ground floor level:

Application of hydrophobic & oil-phobic, water based impregnation **Sikagard®-790 All-in-One Protect**, suitable for horizontal and vertical mineral substrates and also suitable for all types of marbles. Application of the permanent – non sacrificial protective final coating **Sikagard®-850 AG** for protection against graffiti and posters, easy to clean with low pressure cold water.

- Artificial coating surfaces on the ground floor level: Application of the permanent-non sacrificial protective coating **Sikagard®-850 AG** against graffiti and posters.

- Artificial coating surfaces on a higher level:

Application of the silane/siloxane based, hydrophobic impregnation **Sikagard®-730 Concrete Protect Plus**, suitable for mineral vertical surfaces, able to protect against water penetration and atmospheric pollutants. The product carries a Declaration of Performance according to EN 1504-2, Class I hydrophobic impregnation for Concrete Protection, containing high concentration of active ingredients (~25%). Alternatively, or in combination with **Sikagard®-730 Concrete Protect Plus**, the surface stabilizer of friable substrates & surface sealing top coat **Sikagard®-907 W** was proposed, aiming to prolong the protection duration of whole the system.

SIKA SOLUTION

Prior to the final selection of the protection systems, preliminary tests were conducted, in order to evaluate the final appearance of the facade, the possible aesthetical changes and the protection they provide. Moreover, the aesthetic, artistic, cultural and architectural value of the preserved building imposed the final approval of the systems both by the Supervision and by the Department of Modern Monuments of the Ministry of Culture.



PRELIMINARY APPLICATION BEFORE THE FINAL SELECTION

Tests were conducted in order to evaluate the aspect and performance with use of **Sikagard®-730 Concrete Protect Plus**, as a single applied product or in combination with 2-3 coatings of **Sikagard®-907 W** and of **Sikagard®-850 AG**. All preliminary tests were conducted on the artificial coating substrate. Additionally graffiti spray was applied on surface were **Sikagard®-850 AG** had been applied. After some hours, the surface was cleaned using cold water, low pressure water jetting, proving the efficiency and the easiness in the cleaning process of the product.

Aspect after and during preliminary tests:



After curing, the surfaces were **Sikagard®-730 Concrete Protect Plus** was applied wetted with water. Via this method, the performance of the product was obvious, as it exhibited extremely low water penetration. Also the performance of **Sikagard®-907 W** was evaluated, in terms of stabilizing the friable artificial coating.



After all these tests, Sika systems were approved. Marble surfaces would be coated not only with **Sikagard®-790 All-in-One Protect**, but with **Sikagard®-850 AG** because of the high protection level that the product ensured from vandalisms (posters and graffiti).



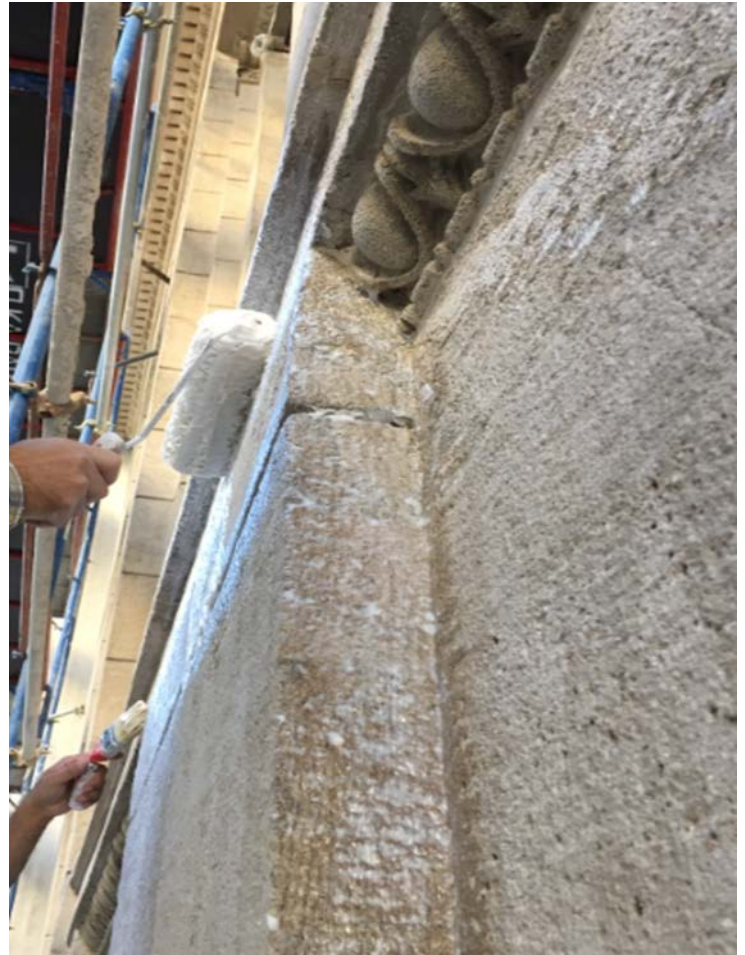
APPLICATION DETAILS

Before the application, preparation and cleaning of the artificial coating & marble surfaces was carried out by special accredited conservation monuments and artwork applicators. Similar cleaning methods were implemented to repair and clean the stained glass and replace the frames. Finally, the frames and the railings were masked before application.

Application began with the protection system of the artificial coating coat above ground level. **Sikagard®-730 Concrete Protect Plus** was applied with roller and with brush at the joints (consumption ~ 200 - 250gr/m²).

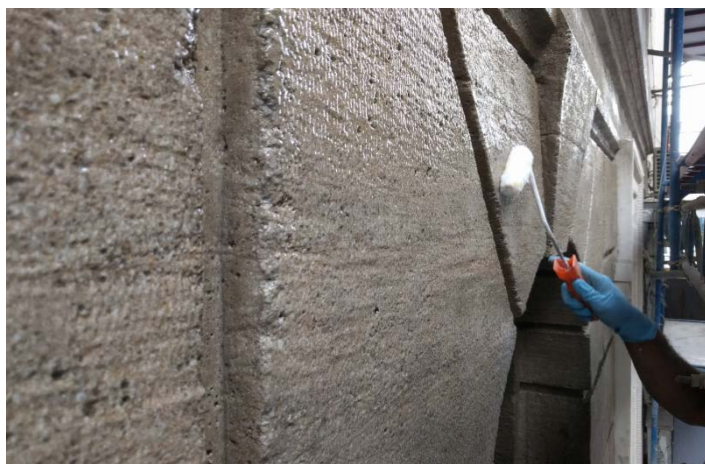
Finally, **Sikagard®-850 AG** was applied, in 2 coatings, on the marble surfaces and on the artificial coating (ground level to a low balcony). Application was performed using long-hair roller, due to the roughness of the paint finishing and using a brush on the joints.

Sikagard®-850 AG is a permanent, non-sacrificial, protective coating against graffiti and flyposters for substrates such as concrete, masonry, marbles, natural stone, e.t.c. (type II, according to Greek Technical Specifications 05-02-03-00). After applying **Sikagard®-850 AG**, graffiti is removed continuously, without damage of the protective coating. Moreover, no chemical is demanded and cleaning can be performed using solely cold water.



7 days afterwards (complete curing of **Sikagard®-730 Concrete Protect Plus**), **Sikagard®-907 W** was applied, which works parallel as a sealing resin and surface stabilizer for friable substrates. The product was applied in 2 to 3 coats with roller and brush in the joints (wet-to-wet method), depending on the condition of the coating.

On the marble surface, on the perimeter of the lower part of the façade and on the main entrance, **Sikagard®-790 All-in-One Protect** was applied, using roller. The product was applied in 1 layer (consumption ~150gr/m²), waiting 7 days before overcoating it.



Application of the second layer was performed 2 to 3 hours after the first coating (touch dry). Finally, after finishing the application, graffiti spray was again applied on the **Sikagard®-850 AG** coating to evaluate its performance. After a few hours, it was cleaned by cold-water low pressure water, proving again its exceptional characteristics.





PROJECT PARTICIPANTS:
 Contractor: **AKTOR CONTRACTORS LIMITED**
 Structural design: **LIONTOS & ASSOCIATES**

Our most recent General Sales Terms shall apply.
 Please consult the most recent Product Data Sheets prior to any use and processing.



Sika Hellas ABEE
 15 Protomagias Str.
 145 68, Kryoneri
 Athens-Greece

Contact
 Τηλ.: +30 210 8160600
 Fax: +30 210 8160606
www.sika.gr / sika@gr.sika.com

