# SIKA AT WORK

## 4* Ilion Beach Hotel, Pyrgos

## Psilonerou, Crete

- Thermal insulation of building envelope: Sika ThermoCoat® system
- Mortar & render production: SikaLatex® Max
- Waterproofing: Sikalastic®-1K, SikaTop® Seal-107 FL-X
- Tile bonding: SikaCeram®
- Roof waterproofing: Sikalastic®-612

BUILDING TRUST

# 4* ILION BEACH HOTEL, PYRGOS PSILONEROU, CRETE

**PROJECT DESCRIPTION**

Ilion Beach Hotel is a 4 star Hotel located in Pirgos Psilonerou, only 3 km away from Platanias and 15 km from the city of Chania.

The hotel complex was constructed in 2019 and consists of 45 rooms: 37 studios, 6 2-room apartments and 2 maisonetes. The hotel has an indoor bar, a pool bar, a restaurant, a beach tavern and a mini market.

With a family-friendly approach, guests can relax in the shared 600m$^2$ outdoor pool and in the surrounding environment of the hotel, which covers an area of 23,5 acres.

At the hotel's beach restaurant and tavern, guests can enjoy delectable Cretan cuisine and drinks.

Gerani - Pyrgos Psilonerou area is the ideal holiday destination, combining the tranquility of the natural landscape with the cosmopolitan life of Platanias.

**PROJECT DEMANDS**

The construction of a hotel complex is - by nature- a complicated and demanding process. Each design perspective requires the use of specific materials and systems that meet the targeted comfort, aesthetics, usability, as well as service life and maintenance requirements of the unit. Overall, the project budget must be combined with aesthetic vision and long-term functionality.

In order to construct a hotel unit and turn it into a 45 room complex, a multitude of products for various construction needs were required, all of which arose when practicing the design conception.

One of the most important requirements was the thermal insulation of the building envelope, for which an external thermal insulation system was selected. Also systems were required for tile bonding of various tile types, indoor and outdoor, as well as for waterproofing and roofing, mortar production and joint sealing.

**SIKA SOLUTION**

For each requirement, a Sika product or system was proposed and implemented. Sika products combine optimum efficiency with aesthetics that harmoniously embody the architectural conception. More specifically:

***External Thermal Insulation System (ETICS):*** Adoption and application of the correct thermal insulation system for a building can lead to energy savings of 30% or more in what relates to the consumption of energy for heating or cooling via minimizing construction losses. In this sense, it also reduces $CO_2$ emissions to the atmosphere and the phenomenon of the urban islet. Therefore, the correct approach of the thermal insulation system implies energy savings, cost savings, improved living conditions & respect for the environment.


For the external thermal insulation of the whole building structure, the **Sika ThermoCoat® External Thermal Insulation Composite System** was applied. **Sika ThermoCoat®** is a complete system, consisting of high-quality products, which have been tested for their compatibility and durability. **Sika ThermoCoat®** system fulfills the specifications of the European Organization for Technical Approvals - EOTA. It has been tested according to the guidelines of ETAG 004 (European Technical Approval Guideline), obtaining European Certification (European Technical Approval - ETA).

The system comprises of:

**Sika ThermoCoat® Easy:** High performance, 1-comp. cementitious fiber reinforced concrete for bonding & rendering

**Sika ThermoCoat®-2 HS**: EPS boards, white or graphite featuring high thermal insulation properties

**Sika ThermoCoat®-4 HS:** Alkali resistant glass fiber net for reinforcment of mortar base coat

**Sika ThermoCoat®-5 HS Primer**: Primer for adhesiong promotion of final render

**Sika ThermoCoat®-5 HS:** Coloured, acrylic, water-repellent final protective and decorative render, available in 3 granulometries

**Sika ThermoCoat® Accessories:** Range of auxiliary products for the application of the system

***Waterproofing & tiling in the main pool and in areas with large tiles:***

In order to create a long-term durable swimming pool construction and since tiles were selected for the final surface, **Sika's Waterproof Tile Adhesive System** was adopted. **Sika's Waterproof Tile Adhesive System** combines flexible, cement-based Sikalastic® mortars with C2 Class tile adhesives. Waterproofing was performed using the 1-component, flexible, cementitious, waterproofing mortar with crack bridging abilities **Sikalastic®-1K**. **Sikalastic®-1K** carries CE Mark and Declaration of Performance as a protective coating for concrete (according to EN 1504-2) and a special certification as water impermeable product, for all external installations and swimming pools beneath ceramic tiling (CMO1P according to EN 14891). The tiles were bonded using the 1-component cementitious tile adhesive, C2TES1 Class **SikaCeram®-243 UltraFlex**. **SikaCeram®-243 UltraFlex** is a high performance tile adhesive, elastic and thixotropic, featuring extended workability time and powerful adhesion to substrate.

**SikaCeram®-243 UltraFlex** was also used for tiling large size tiles.

***Waterproofing & tiling in communal areas & rooms:***

Tile bonding in all communal areas and hotel rooms was performed using the 1-component cementitious tile adhesive, Class C2TES1, **SikaCeram®-241 Flex**. **SikaCeram®-241 Flex** is a high performance tile adhesive, elastic and thixotropic, featuring extended workability time and strong adhesion to substrate.

For enhanced adhesion to mineral substrates, **Sika® Primer-11 W+** primer was applied. The use of **Sika® Primer-11 W+** primer offers reduced substrate absorption, adhesion enhancement and substrate protection against the moisture content of the tile adhesives themselves. The advantages of the primer include its suitability for indoor use, thanks to its special certification for volatile organic emissions (water-based), as well as its highly economical application.

***Other applications:*** For mortar & render production, the mortar improver emulsion **SikaLatex® Max.**

For joint sealing of all joint types, the 1-component, polyurethane sealant **Sikaflex® Construction+** was used**.**

Waterproofing of the fire tank was carried out with the 2-component cementitious mortar **SikaTop® Seal-107 FL-X**.

***Roof waterproofing:***

The construction's roof waterproofing should exhibit high resistance to UV radiation and atmospheric chemicals – common stresses in Greek islands. Moreover, due to the aesthetics of the construction itself and the requirement of its harmonization with the surrounding area, the final shade of the roof surface had to be extra-white. Therefore, roof waterproofing was performed using the 1-component liquid, **MTC®** polyurethane membrane **Sikalastic®-612**, which was further enhanced with embedding the glass mat **Sika® Reemat Premium**.

**Sikalastic®-612** is a 1-component, cold-applied, polyurethane based membrane, moisture-activated for curing triggering, but unaffected from humidity once curing has been initiated. It cures forming a durable, seamless, waterproof membrane for exposed roof surfaces. Its top features include being water vapor permeable, allowing the substrate to breathe, high elasticity and retaining its flexibility even at low temperatures. **Sikalastic®-612** can be re-applied with an additional freshening coating, as no stripping of the former layer is required.

**PROJECT PARTICIPANTS:**
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