THE WORLD'S MOST
TRUSTED BUILDING CHEMICALS

Project
Commercial

Qatar – Exposed concrete roof waterproofing and protection system in the international media communication network.

AL CHIMICA®
BUILDING CHEMICALS

Project Description

This complex application installed in the 3.200 m2 roof of one of the most famous international media communication network conglomerates in Doha. Doha is a country that extreme climatic conditions occur such as high temperatures and sandstorms which constantly push the construction materials to their operating limits especially on roof areas. In addition, when heavy rains come there is always the risk of unwanted water infiltration which can cause considerable damage to the substrates and hence concrete corrosion.

In this project the building had been equipped with massive air-conditioning units installed in the roof making it a complex application.

Project Requirements

As water and sunlight resistance are detrimental to the durability of coatings used on flat roofs the importance of this project set high demands and close monitoring for high detailed development and completion.

ALCHIMICA with its global experience in waterproofing and sealing was able to provide assistance in every phase of the project, proposing the right products and systems based on the technical specifications, advising at the same time on the application methods for saving time and costs. The project itself required specific requirements due to the complexities on the exposed concrete roof and its details. That was why the designers needed a reliable system for a durable solution. ALCHIMICA considered all the technical and environmental impacts of the system in order to increase the durability and sustainability of the building and guarantee the high performance of the roof for years to come.

The suggested liquid applied waterproofing concrete roof system and application method for this specific project had to deal with the complex roof shapes which were formed from the air-conditioning units, pipe supports and antennas.

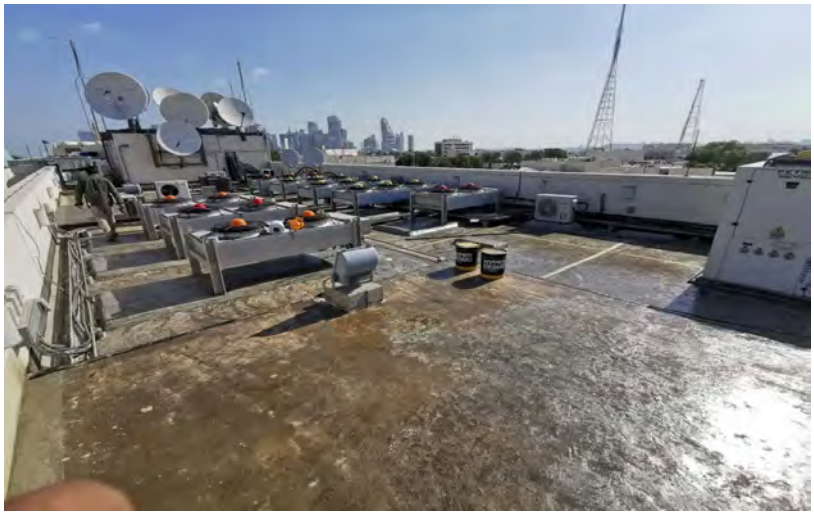
ALCHIMICA SOLUTIONS

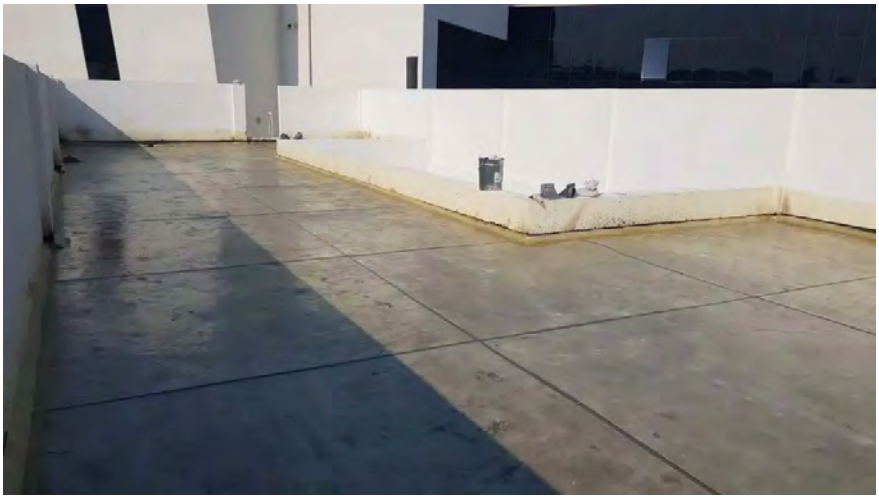
Taking into consideration the complex roof but also the Qatar climate conditions, our HYPERDESMO® exposed concrete roof waterproofing system was selected and applied successfully, covering the total surface of 580 m2. The system included the priming of the surface with the GEODESMO-50 and also the sealing of the roof joints with the HYPERSEAL®polyurethane technology sealants, while the certified HYPERDESMO® waterproofing membrane applied in 3 coats. The versatility and ease of application of our waterproofing system allowed the safe and easy treatment of the complex roof shapes and installations such as air-conditioning units, pipe supports, antennas.

As a final step, the HYPERDESMO® ADY-E high aliphatic reflective top-coat was used to ensure the durability of the system and the reduction of the building’s energy costs.

Priming

We recommend the Microsealer - 50 because it is a next day material which is a solvent-based polyurethane single component primer. It is used as a very low viscosity, deep penetrating, slow cure primer, which has excellent wetting, impregnation, and paint-over time on different substrates, whether of high or low porosity, with an elongation rate 300%.
Properties: Sealing and stabilizing the substrate, insuring good adhesion of the main coat. Minimum consumption: 100-300 ml/m2 (depending on substrate porosity).





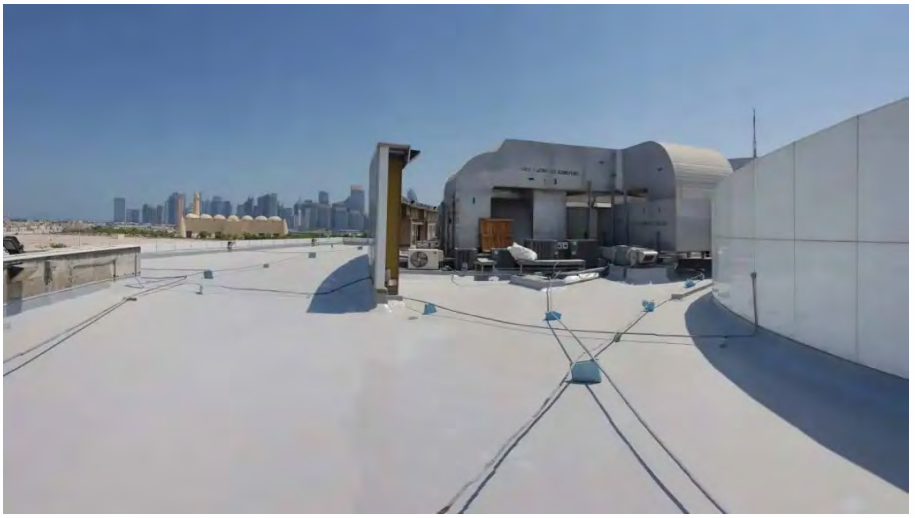
Sealing

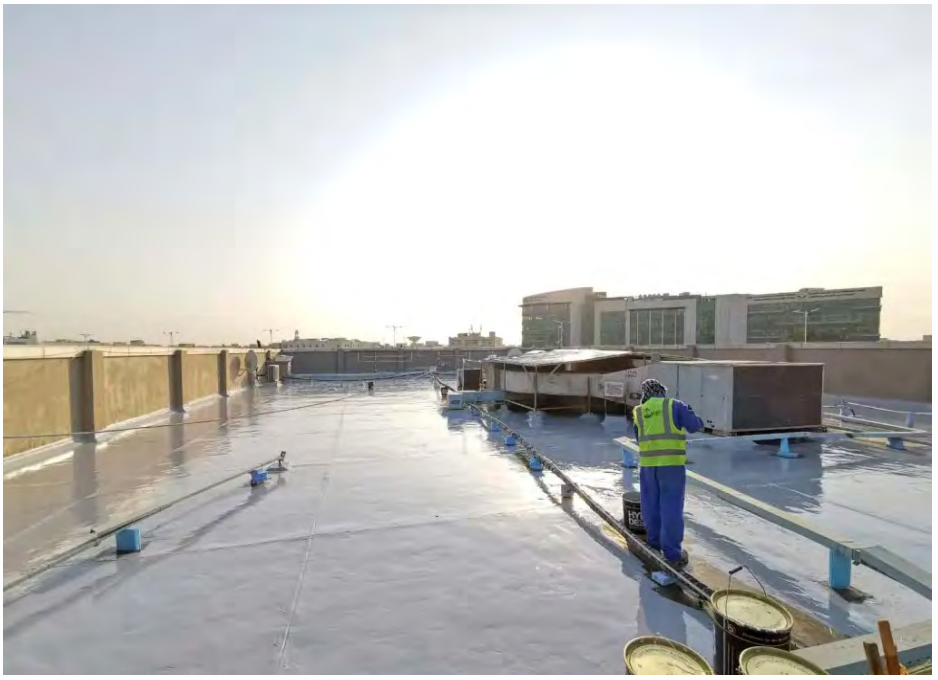
Taking into consideration the critical point to deal with the gaps between the fiber connections, we used the HYPERSEAL®-EXPERT-150 to treat and seal the joints.

It is a low modulus expansion joint polyurethane sealant. As a one component material, it is specially formulated to ensure a bubble-free cure even at very high temperatures and humidity climatic conditions and can stay exposed to UV.
ELONGATION >700 - HARDNESS ± 27Shore A
Properties: Thixotropic with a 50% joint movement accommodation factor and excellent adhesion on substrates such as e.g. glass, aluminum, steel, polycarbonate, etc.

Waterproofing

The system included the sealing of the roof joints while the certified HYPERDESMO® waterproofing membrane applied in 3 coats. Ideal for the fibrocement substrate HYPERDESMO® is a waterproofing membrane based on polyurethane. It cures with the humidity in the atmosphere and produces a highly elastic membrane.
Single component, medium viscosity, self-leveling.
Properties: Excellent mechanical, chemical, thermal, UV, and natural element resistance properties.
Minimum total consumption: 1.5-1.8 kg/m2
First coat: 0.7-0.9 kg/m2. Second coat: 0.8-0.9 kg/m2.





Top Coat

For the maximum system performance and working life we recommend the use of top coating in order the system achieves the ultimate protection
In this case the HYPERDESMO® ADY-E (Neutral) a solvent-based PU top coat used for protection as a Single component, fully aliphatic, non-yellowing, elastic material.
Properties: Excellent hiding power, high traffic resistance. Excellent UV, mechanical and chemical properties
0.200-0.600 kg/m2 (depending on traffic conditions).

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