

## Case Study

# Rubik - Achrafieh 1079

Beirut, Lebanon



### Background

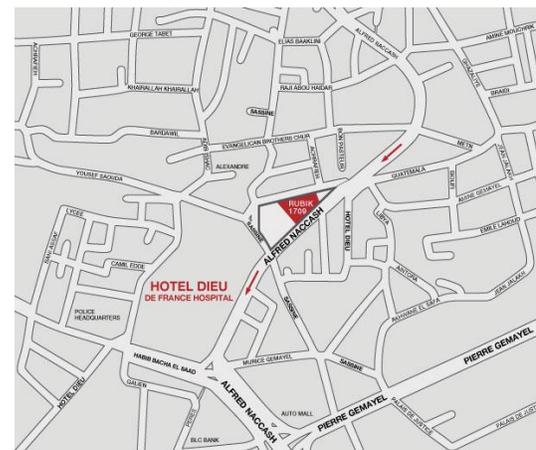
Rubik 1709 is the first ultramodern office and clinics building project in Lebanon. Ideally located on the main road of Achrafieh, Rubik 1709 rises in a prime location in Beirut next to Hotel Dieu De France which acts as a national and regional reference university hospital, with the safest and highest care, and organized around networks and centers of excellence. This advantageous setting makes it a perfect place for businesses and medical practices. Close to a major hospital and university and near Sassine Square, Rubik 1709 is attractively central and highly accessible.

The project development was directed by TRUSTHOLD development group; one of the most professional private real-estate development firms. Trusthold invests in real-estate and develops high-end residential, commercial, and retail projects in Lebanon. Trusthold operates on the highest level of management and ethical standards to ensure quality investments.



### Challenges

One of the challenges in this project was to provide an adequate and efficient waterproofing system for the basements, raft foundations, and the retaining walls due to the presence of water table with high hydrostatic head. Leakage is not acceptable in such important and critical use structure. Other concerns was to end up this project on time and within very restricted budget.



### Solution:

TA Group, Kryton's distributor in Lebanon, rose to the challenge. They decided to add Krystol Internal Membrane™ (KIM®) admixture at a rate of 7 KG/m<sup>3</sup> directly to the mix for construction.

By simply adding KIM to the concrete mix at the time of batching, waterproofing concrete becomes a quick and easy process that won't hold up the construction timeline. The Krystol system uses advanced integral crystalline waterproofing technology to transform porous concrete into a permanent, water-resistant barrier and provide a guaranteed defense against water damage and steel reinforcement corrosion. Later, if cracks form, the incoming water will react with KIM and trigger further crystal growth, filling cracks and keeping the structure watertight.

For added protection, Krystol Waterstop Grout™ and Krystol Waterstop Treatment™ were applied to the construction joints to fully waterproof the structure.

Besides, Super Net fiber reinforcement from Forta Ferro had been added to concrete at a rate of 1 Kg/m<sup>3</sup> in the raft foundation. These fibers reduced the shrinkage cracking of the concrete and added strength resulting in enhanced durability.

Both the owner and the contractor was satisfied by the high quality work completed on time and within budget. The system installed by TA group will withstand the hydrostatic pressure and provide leak free structure for the life of Rubik 1079.

**Location:**

Achrafieh – Lebanon

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**Developer:**

TRUSTHOLD Development Group

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**Architect:**

ASYA Architects

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**Structural Consultant:**

Mazen Sayed Office

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**Main Contractor:**

IMAR

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**Waterproofing Sub-contractor:**

T.A. Group S.A.R.L.

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**Products Used:**

KIM-HS, Krystol Waterstop Grout,  
Krystol T1, Krystol Repair Grout,  
Krystol Waterstop Treatment,  
Krystol Bari-cote, Krystol Plug  
Super Net Fibers