

DURABLE BUILDINGS
TRUSTED SOLUTIONS

WATERPROOFING AND PROTECTION OF POOLS & FOUNTAINS

"My World Europe" Turkey.



ALCHIMICA's advanced waterproofing system based
on HYPERDESMO®-2K-W

Residential construction development project



ALCHIMICA proudly contributed to the renowned 'My World Europe' project, a prominent commercial and residential building complex nestled in the Beşiktaş district of Istanbul. It is being constructed on an approximately 200 decares of land in Beşiktaş-Ayazma neighbouring Atatürk Olympic Stadium. This expansive property boasts vast green spaces and is designed with a strong commitment to environmental consciousness. Its contemporary architecture caters to a wide range of client needs, offering an array of recreational and social facilities.

The 'My World Europe' complex comprises 3,080 residences and 20 twin villas, strategically divided into three main sections: Pool Residence, Arena Residence, and Golf Residence. It stands as one of Istanbul's largest residential projects. Most importantly, My World Europe is designed to consume minimum energy with its thermal insulation which is in the world standards and with the buildings' maximum performance and minimum waste.

Noteworthy features include a sprawling 130-meter-long swimming pool in the Pool Residence section and captivating fountains along with a decorative swimming pool in the Arena Residence area. 'My World Europe' is not just a place to live but a testament to innovative design and sustainable living.

Project Requirements

The project itself required specific requirements for waterproofing and protection of the giant swimming pools and the fountains. Due to the fact that the swimming pools will accommodate a lot of traffic containing large amounts of chlorine treated water, a durable and strong solution was required that should prevent water ingress, deal with mechanical movements and resist to both positive and negative water pressure, temperature changes and acidity. ALCHIMICA's tested sealing and waterproofing solutions with its global experience was able to provide any assistance in every phase of the project.



The 'My World Europe' project presented us with a unique challenge: to provide robust waterproofing and protection for its massive swimming pools and intricate fountains. These aquatic spaces were destined to accommodate heavy foot traffic and substantial amounts of chlorine-treated water. Our solution needed to meet a comprehensive set of demands, including:

- **Water Ingression Prevention:** The waterproofing had to be impeccable, guarding against any water seepage.
- **Mechanical Movements:** We had to address potential structural shifts and movements.
- **Resistance to Pressure:** The solution needed to withstand both positive and negative water pressure.
- **Temperature Fluctuations:** Given the changing climate, adaptability to temperature variations was crucial.
- **Acidity Resistance:** The pools' water, treated with chlorine, required resistance to acidity.

Leveraging ALCHIMICA's globally-tested sealing and waterproofing solutions, we stepped up to the plate. Our experience and expertise guided us through every phase of the project, ensuring that the swimming pools and fountains not only met but exceeded the project's stringent requirements. This case serves as a testament to our commitment to excellence and innovation in waterproofing and protection solutions.

ALCHIMICA SOLUTIONS

Taking into consideration the impressive size of the swimming pools and the mechanical and chemical resistance properties that needed for, our HYPERDESMO®-2K-W swimming pool waterproofing system was selected and applied on surfaces as it produces a strong flexible-elastic membrane impermeable by water while it has an excellent resistance to acidic and basic environments performing even in tanks containing chlorine treated water.

"My World Europe"

Project size: 10000 sq meters ?????

ALCHIMICA products used:

- Priming - AQUASMART-DUR
- Sealing - HYPERSEAL®-EXPERT-ISO
- Waterproofing - HYPERDESMO®-2K-W
- Top coat - AQUASMART-TC 2K POOL PROTECT



Priming:

As a first step the system included the priming with the AQUASMART-DUR. AQUASMART-DUR is a medium viscosity epoxy based primer and it is a completely solvent free and low VOC primer. It offered deep penetration to concrete porous substrates, sealing all the vertical and horizontal parts of the structure. For this demanding application because of the negative pressure humidity barrier that was required, the total consumption of AQUASMASTDUR chosen to be at minimum 500 gr/m² in 3 successive layers.



Sealing:

Concrete joints especially in the swimming pools are facing many challenges from constant movements due to thermal shifts, to persistent vibrations, traffic-induced mechanical stresses and corrosive de-icing chemicals. To effectively keep water out of the structure and prevent any potential erosion of concrete and corrosion of steel components we used the certified polyurethane HYPERSEAL®-EXPERT-150 as a seal to the parapet walls, gutters and the numerous cut-construction and connection joints.



WATERPROOFING:

ALCHIMICA's HYPERDESMO®-2K-W swimming pool waterproofing system successfully addressed the project's unique demands. It not only provided unmatched waterproofing but also exhibited exceptional resistance to the challenging chemical environment of chlorine-treated water. The finished pools not only met but exceeded expectations in terms of durability, performance, and aesthetics. This case exemplifies ALCHIMICA's commitment to innovative solutions in waterproofing and protection





HYPERDESMO®-2K-W is a two-component, solvent-free, thixotropic coating, based on high quality elastomeric polyurethane resins.

It has been certified for EU regulations by the O.T.E.C. institute, the Regulations of Australia and New Zealand and the Water Supply Regulations of England, Wales, Ireland and Scotland through Water Regulation Advisory Scheme (WRAS)

But even more importantly, while creating **HYPERDESMO 2-KW**, we took into consideration all possible drinking water limitations and specifications globally, in order to create a product that could be used under any regulations, everywhere.

It has excellent thixotropy and rheology without being viscous; it cures fast and remains flexible in a multitude of temperatures.

Extremely hydrophobic and hydrolysis resistant, it has already been used for the waterproofing of many potable water applications as well as in water desalination plants globally.



TOP COAT PROTECTION

This step was necessary to colour protection and better chemical resistance against chlorine treated water.

AQUASMART -TC 2K POOL PROTECT is a two component, water based, and aliphatic topcoat with exceptional resistance to chlorine treated water as well as UV resistance in any colour. A common problem in swimming pool waterproofing with epoxy systems is that over time the colour instability of the epoxy coat gives a washed out look to the coating or even in the case of bad quality epoxies severe discoloration.

AQUASMART -TC 2K POOL PROTECT is a fully aliphatic, polyurethane topcoat with extreme UV resistance in any colour, even very dark. The material is easily pigmented by using water based pigment pastes available in hardware stores. The product displays excellent adhesion to epoxy and polyurethane coatings. The rheology of the material also allows easy application on the vertical walls of the swimming pool. Finally the product displays excellent resistance to staining.

Application is carried out with a roller at a total consumption of 0.2-0.3kg/m² in two coats.



HYPER DESMO 2K-W SYSTEM



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