

Firestone



Lining for Life™

Firestone PondGard™, the liner of choice for the unique biological Sinpas Lagün Project



Istanbul, that most romantic of cities, now has one more jewel to add to its illustrious crown. The Lagün Project, a major development of prestigious villas and flats intersected by a latticework of crystal clear lagoons and waterways, offers an oasis of calm and tranquility in the heart of this teeming, vibrant city. Underpinning the whole scheme, ensuring the waterproof integrity of all these complicated waterways, is no less than 30,000 m² of Firestone PondGard™ membrane, making it one of the largest biological lagoon projects in the whole of Europe and Turkey.

The scheme has been a prime example of healthy international co-operation, with Firestone's support at the very heart of the project. Originally conceived by the Turkish developer, Sinpas, Firestone's Turkish PondGard distributor, CEM BOTANIK, was awarded the contract to turn their dream into a reality. The challenge was to create a system of waterways, which would maintain clear water to reflect the exclusive nature of the properties, preferably without relying upon the continuous use of expensive treatment chemicals. To help them achieve that goal, Firestone introduced Cem Botanik to the UK's leading firm of landscape water specialists, KINGCOMBE AQUACARE LTD, who are themselves major installers of Firestone PondGard EPDM.

John Colton, the managing director of Kingcombe Aquacare, quickly developed a close working relationship with Cem Sirin, the owner of Cem Botanik, which is a foremost landscaping company in Turkey. Design teams from Kingcombe Aquacare and Cem Botanik combined well to rise to this challenging task.

The concept drawings called for the water to flow through 10 individual lagoons nestling between the various buildings within the complex, all connected by



Firestone Building Products

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a main central river meandering down through the green parkland landscape, flowing en route over a series of gentle weirs and waterfalls. Originally the intention was to treat this vast area of water as one huge swimming pool, using chlorine to maintain water quality and to restrict unwanted algal and plant growth. However, Kingcombe proposed a different strategy. With Cem Botanik's support they persuaded the client, Sinpas, to adopt a more sustainable, environmentally responsible strategy.

Kingcombe was able to draw on their experience of working in hot and challenging climates from their previous involvement in the design of the 6ha lake at Salam Park, in Riyadh, Saudi Arabia (another flagship Firestone lining success!). They used that knowledge to devise a system which recycles all the water through plant regeneration zones, which themselves are designed to form an integral and natural part of the overall landscape. The recirculated water wells up through marginal aquatic plant beds consisting of zeolite mineral gravel, which effectively strip surplus nutrients out of the water, thereby discouraging unwanted algae. Meanwhile air blowers maintain the level of O₂ in the water by introducing fine air gas bubbles, which percolate up through the regeneration zone along with the recycled water. Each of the 10 lagoons enjoys its own dedicated feed from the large underground pump chamber sited on the lowest level of the site, ensuring that water quality within each lagoon remains high at all times.

Given that these attractive waterways are bound to encourage a range of casual leisure activities, it was critical to specify a lining membrane that would withstand the challenge of such potentially hard wear. At the same time, the material, and its installation system, had to be sufficiently flexible to be installed around the multitude of complicated shapes and penetrations which exist within each lagoon. Firestone PondGard EPDM was the obvious choice. Laid on a 500 g/m² geotextile underlay, it proved eminently suitable for the task in hand.

Kingcombe Aquacare sent a team of experienced installers over from the UK to train and oversee Cem Botanik's own installation teams, and were on site for almost six months in total. All language and cultural barriers swiftly evaporated in the common desire to achieve this daunting task. Firestone's own technical lining experts regularly supported the installation team. Indeed, so complex was the site, and on such a grand scale, that a senior Firestone technical consultant commented that it was the most challenging lining project in which he had ever been involved.

Thanks to Cem Sirin's unquenchable enthusiasm and determination to get the job done, combined with Kingcombe Aquacare's invaluable experience, the Lagün Project is now a reality. Already the sustainable benefits of the system are becoming evident. The recirculation pumps are only operating up to 10 hours per day, reducing power consumption, whilst maintenance costs are minimal. With just one man required to manage the waterscape, the system will pay for itself in only 4 years when compared with the alternative chemically treated solution, making this project yet another great Firestone PondGard environmental and commercial success.

