

Project:

Desalination plant Limassol

Location:

Limassol (Cyprus)

Project completed:

2014

Owner/s:

Limassol Water Co.

Applicator/Contractor:

Sotiris Foti & Son Ltd

Designer/Architect/Specifier:

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Market sector:

Water Management Industry

Products used & amounts:

MasterSeal P 385

MasterSeal P 604

MasterSeal M 689

DESALINATION PLANT LIMASSOL

Waterproofing of potable water tanks



Our reference in Limassol (Cyprus): Waterproofing of potable water tanks

The background

The contract for the construction and operation of the Plant was signed in August 2009. The contractor was Joint Venture N. LIMASSOL WATER CO LTD composed of MEKOROT (Israel) and NETCOM (Cyprus) companies.

This contract provides for a 20-year operation which started in July 2012 and is expected to expire in July 2032. The Plant was mainly in reserve until the end of 2015.

The capacity of the Plant is 40.000m³/ day with a capacity of extension to 60.000m³/ day. The Limassol Desalination Plant covers for part of the drinking water requirements of the District of Limassol.

The challenge

Operation contract for 20 years and water demands of the Limassol area has made the main requirement for a desalination plant in the long-term operation without minimal unplanned shutdown times.

Although seawater immersion is only moderate exposure for concrete, if the concrete has long dry periods following long wet periods chloride ingress and subsequent corrosion rates may be rapid.

Big concrete tanks, exposed to cyclical movements due to load and unload operations, will suffer from structural movements that cause concrete cracking. Therefore, concrete protection membrane had to show high crack bridging capacity.

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DESALINATION PLANT LIMASSOL

Waterproofing of potable water tanks



Application of MasterSeal M 689 polyurea waterproofing and protection membrane.

Our solution

Considering the dimensions of the project, the high durability requirements combined with the need of a high crack bridging solution, the proposal was to apply a hot spray polyurea membrane: MasterSeal M 689.

The membrane was applied on a properly treated and cleaned concrete surface after the application of primer to ensure adhesion and to seal concrete pores.

MasterSeal M 689 was applied by means of a suitable two component heated, high pressure, proportioning spray equipment.

As the material was spray-applied, no additional procedure was needed to achieve a uniform and tight coating.

The customer's benefit

MasterSeal M 689 offers a high-water tightness combined with chemical resistance to dissolved salts.

But, especially necessary for this project, MasterSeal M 689 offers also high elasticity and crack bridging capacities both static (class A5 according to EN 1062-7 (A) with a crack width higher than 2.5 mm and dynamic (class B4.2 according to EN 1062-7 (B) with a crack width of 0.2 to 0.5 mm, at 20,000 cycles and a frequency of 1 Hz).

Projects facts at a glance

- Rapid installation and return to service of the applied coating thanks to the combination of MasterTop P604 primer and MasterSeal M 689 coating.
- Approx. 1950 m² of treated surface.

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