

Project:

Desalination Plant Limassol

Location:

Limassol (Cyprus)

Project completed:

2014

Owner/s:

Limassol Water Co.

Applicator/Contractor:

Sotiris Foti & Son Ltd

Market sector:

Water Management Industry

Products used & quantities:

MasterSeal P 385

MasterSeal P 604

MasterSeal M 689

DESALINATION PLANT LIMASSOL

Waterproofing of water tanks



Reference Project, Limassol, Cyprus

The background

The contract for the construction and operation of the Plant was signed in August 2009. The contractor, N. LIMASSOL WATER CO LTD is a joint venture between the companies MEKOROT (Israel) and NETCOM (Cyprus).

The contract specifies a 20-year operating period 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 volume of the Plant is 40.000 m³/day with the capacity to expand to 60.000m³/day. Water from the Desalination Plant covers only part of the drinking water requirements of the District of Limassol.

The challenge

The 20-year contract obligation and water demand of the Limassol area mean that the long-term operation is only feasible if unplanned shutdowns are kept to a minimum.

Although the concrete is only moderately immersed in seawater the long dry periods followed by long wet periods will aid chloride ingress into concrete and the subsequent corrosion rates of steel rebars may be rapid.

The large concrete tanks are exposed to cyclical movements due to the continuous loading and unloading operations. The structural movements will then cause the concrete to crack. Therefore, any concrete protection membrane must be flexible and demonstrate a high crack bridging ability.

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DESALINATION PLANT LIMASSOL

Waterproofing of water tanks



Application of MasterSeal M 689 polyurea waterproofing and protection membrane.

Our solution

Based on the size of the tanks, the requirement for high durability combined with the need for an efficient crack bridging solution, the application of the hot spray polyurea membrane: MasterSeal M 689 was proposed.

A primer was applied to the sanded and cleaned concrete surface to ensure adhesion and to seal the open pores.

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

Since the material was spray-applied, no additional step was required to seal the surface and achieve a uniform finish.

Benefits to the customer

MasterSeal M 689 seals the surface against water ingress and is chemically resistant to dissolved salts.

MasterSeal M 689 also offers also high elasticity and crack bridging properties which is especially important for this project:

- Static: (class A5 according to EN 1062-7 (A) with a crack width higher than 2.5 mm
- 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).

Project facts at a glance

- The rapid installation of the system enables a quick return to service for the facility thanks to the combination of MasterTop P604 primer and MasterSeal M 689 coating.
- Approx. 2.000 m2 of concrete were treated.

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