

**Project:**

Steel elevated tank

**Location:**

Słupca (Poland)

**Project completed:**

2017

**Owner/s:**

Miejski Zakład Wodociągów i  
Kanalizacji w Słupcy  
[Słupca Municipal Water and  
Sewage Company]

**Applicator/Contractor:**

DUKO Engineering sp. z o.o.

**Market sector:**

Water Management Industry

**Products used:**

MasterSeal P 684  
MasterSeal M 689  
MasterSeal M 808

## Słupca water tower

### Internal refurbishment of the tank



Słupca water tower in Poland

#### The background

The elevated steel tank, commonly known as the Słupca water tower, was built in the 1990s to ensure stable water pressure in the city of Słupca (Greater Poland Province).

This facility belongs to the Municipal Water and Sewage Company in Słupca, its history, in various legal forms, dating back to the 1960s.

The water tower has a capacity of 700 cubic meters and is located in the northern part of the city. With the completion of the elevated tank construction, i.e. since 1993, the problems with water shortages during the periods of peak demand have ended.

For many residents of Słupca, the water tower is also a landmark, as at a height of almost 38 meters, it is visible from virtually anywhere in the city.

#### The challenge

In 2016, the Municipal Water and Sewage Company in Słupca decided to renovate the internal surface of the elevated tank.

This is a crucial area due to its contact with drinking water for the city residents. A tender was organized that specified in detail the tasks for the future contractor.

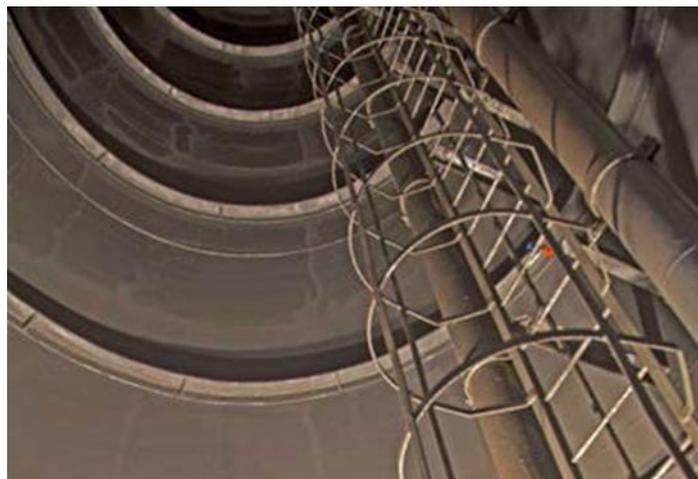
The investor also required at least a 6-year warranty for the performed renovation works.

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# Ślupca water tower

## Internal refurbishment of the tank



View of the MasterSeal M 689 protective coating inside the water tower

### Our solution

After preparation of the substrate, DUKO Engineering used a special MasterSeal P 684 primer for priming the tank.

MasterSeal M 689 polyurea membrane was used as a waterproofing and protective coating which, in addition to being highly resistant to chemicals, is also highly elastic and therefore allowed to seal a steel structure of these overall dimensions. As the material was spray-applied, no additional procedure was needed to achieve a uniform and tight coating.

To insulate the ladder and other small elements, hand applied polyurethane membrane MasterSeal M 808 was used which was applied manually.

After applying the polyurea membrane and dismantling the scaffolding, the tank was rinsed and disinfected, followed by bacteriological water tests, the results of which raised no objections.

### The customer's benefit

The choice of MasterSeal M 689 polyurea technology solved the investor's problems with regards to protection of the internal surface of the tank, especially considering the height of the water tower and the associated structure movements.

MasterSeal M 689 does not only offer a high chemical resistance, but is also highly elastic, thanks to which it has both the highest static crack-bridging ability (class A5 according to EN 1062-7 (A) with a crack width of 2.5 mm) and the highest dynamic crack-bridging ability (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).

For the contractor DUKO Engineering who provided a 6-year warranty for the completed works, this was the only reliable technology on the market that could comply with these requirements considering the specifics of this facility.

### Projects facts at a glance

- All materials used have valid National Hygiene Institute (Państwowy Zakład Higieny, PZH) certificates for use in drinking water tanks.
- Application of membrane in a structure of 38 meters high.

### Master Builders Solutions by MBCC group

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Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all your construction challenges.

Further information is available at:

[www.master-builders-solutions.com/pl](http://www.master-builders-solutions.com/pl)