

**Project:**

New Water Tower

**Location:**

Feluy, Belgium

**Project completed:**

2018

**Owner/s:**

IDEA

**Applicator/Contractor:**

Galère/P.Rixhon

**Designer/Architect/Specifier:**

IDEA office

**Market sector:**

Waterproofing industry

**Products used & amounts:**

MasterSeal 550

## Feluy Water Tower

### New concrete water tower



Our reference project in Feluy, Belgium: new water tower (Designed by IDEA)

#### The background

The Zone d'Activité Economique in Feluy has a strong petrochemical sector. Feluy is in fact the most important area for the petrochemical industry in Wallonia and the second biggest in Belgium, after the port of Antwerp.

Petrochemical processes require substantial volumes of water which are obtained directly from IDEA, who serve several municipalities.

To satisfy such high demand, IDEA undertook the construction of a new water tower with a capacity of 2,500 cubic meters of drinking water. It was built opposite the existing water tower, which is made of metal.

#### The challenge

The existing metal water tower is not resistant to chlorine used to disinfect the water. Moreover, stability issues were found concerning the anchoring to the floor.

Galère therefore suggested that the new water tower should be made entirely of concrete.

The entire building is made completely of concrete, i.e. including the lowest level, the intermediate floors and the walls. These had to be coated to protect the concrete against carbonation among other things.

The water tower was constructed seamlessly and without joints, using climbing formwork. This meant, however, that the composition of the concrete had to meet certain requirements.

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## New concrete water tower



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### Our solution

In order to work with climbing formwork, the concrete had to meet certain requirements:

To slow down the bonding of the concrete, an admixture with a retarding effect, MasterSet R 130 was used.

MasterGlenium SKY 576 was used for the pillars. This is a superplasticizer with an excellent water-reducing effect, designed especially for ready-mixed concrete.

MasterGlenium SKY 593 was used for the foundation and the walls of the reservoir. This is an auxiliary material, suitable for concrete to be in contact with drinking water.

To protect this important building, it was decided in consultation with IDEA to use MasterSeal 550 coating.

MasterSeal 550 is a carbonation-inhibiting, waterproof cementitious coating which can be used on new concrete under both positive and negative water pressure.

### The customer's benefit

- Seamless and jointless water tower.
- Carbonation-inhibiting, thus protecting the water tower against CO<sub>2</sub>, frost, UV and other adverse weather conditions.
- Good crack-bridging qualities.
- Excellent adhesion to concrete, suitable for both indoor and outdoor use.
- Approved for use in contact with drinking water

To sum up, using MasterSeal 550 as a protective membrane guarantees a long lifetime.

### Projects facts at a glance

- Water tower, built entirely in concrete, approx. 56 meters high
- MasterSeal 550 used as protective and waterproofing membrane.
- Master Builders Solutions auxiliary materials from MasterGlenium Sky and MasterSet gamma.

### Master Builders Solutions by MBCC Group

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