

# Sika at work

## Sewage Treatment Plants Refurbishment

Repair Mortar System:	<b>Sika MonoTop® / Sika® Repair</b>
Concrete Protection:	<b>Sikagard® Protective Coating</b>
Chemical Protection:	<b>Sikagard® / Sika® Elastomastic® / SikaCor®</b>
Corrosion Protection:	<b>SikaCor®</b>
Structural Strengthening:	<b>SikaWrap® / Sika CarboDur®</b>





## Evry Plant, France

### Project Description

Build in 1975 and increased in 1991, the WWTP of Evry has undergone heavy refurbishment in order to rehabilitate some aging structures and to create some news in order to achieve the new requirements for the clean water to evacuate.

### Rehabilitation

- Settlement tank,
- Clarifier tank
- Water zone of the biological tank
- Gutter of flocculation tank

### New Structures

- Digester dome
- Sludge treatment building
- Apron and retention tanks
- Pits and slabs of decanting zones

### New Structures

It was required that the refurbishment works were carried without disruption or interruption to the plant operation.

Additionally, all products used, were required to fulfil the requirements of the relevant part of the EN 1504

### Sika Solutions

Sika could provide a technical solution for each application:

#### Digester protection:

**Sikagard® STEP B** (comprising of: **Sikagard®-720 EpoCem®**, **Sika® Betonol® G-270**, **Sikagard® Armature BX-500**, **Sika® Epiter® TF-130**) – chemical protection

#### Retention tanks protection:

**Sika® Asplit® VEL 1** (comprising of **Sikagard®-720 EpoCem®**, **Sika® Asplit® VEL**, **Sikagard® Armature MT-450**) – chemical protection

#### Structural reinforcement:

**SikaWrap® and Sika® Carbodur®** – carbon fabric and laminates

#### Concrete Protection:

**Sikagard®-680 S** clear glaze – Protective coating

#### Concrete Repair:

**Sika MonoTop®-910 N** – exposed steel protection

**Sika MonoTop®-612 F** – Polymer modified repair mortar

**Sika® Icoment®-520** – Resurfacing mortar

#### Technical building floors:

**Sikafloor®-264** – Epoxy floor

### Project Participants

Owner: Communauté d'Agglomération Evry Centre Essone

Contractor: E.P.I.









# Waste Water Treatment Plant, Wrocław, Poland

## Project Description

The Waste Treatment Plant in Wrocław is a mechanical-biological sewage treatment plant with chemical-assisted removal of phosphorus and full sludge processing.

The goal of the third phase of development and modernization of the Sewage Treatment Plant was to increase the capacity from an average of 70 000 to 140 000 m<sup>3</sup>/d per day, and to fulfill more stringent standards of water leaving treatment and entering to the river.

## Rehabilitation

- Settlement tanks
- Sludge pump stations

## New Structures

- Digester dome
- Sludge treatment building
- Apron and retention tanks
- Pits and slabs of decanting zones

## New Structures

- Grit chambers
- Primary and secondary settlement tanks
- Digestion chambers
- Sludge dehydration buildings
- Biomass tank

## Sika Solutions

Sika could provide a technical solution for each application:

### Preliminary and secondary settlement tank walls:

**Sika® Repair-30 F** – Repair mortar

**Sika® Poxitar F** – epoxy coating (3 layers)

### Preliminary and secondary settlement tank floor:

**Sikafloor®-156** – epoxy levelling mortar

**Sika® Poxitar F** – epoxy coating (3 layers)

### Top of tanks and driving range:

**Sika® Elastomastic TF** – 3 mm highly mechanical and chemical resistant epoxy polyurethane hybrid

**Sikaflex® PRO-3 WF** – chemical resistant polyurethane sealant

### Pumping Station:

**Sika® Repair-30 F** – as levelling mortar

**Sika® Poxitar F** – epoxy coating (3 layers)

### Digestion chambers:

**Sika® Repair-30 F** – as levelling mortar

**Sika® Poxitar F** – epoxy coating (3 layers – laminated)

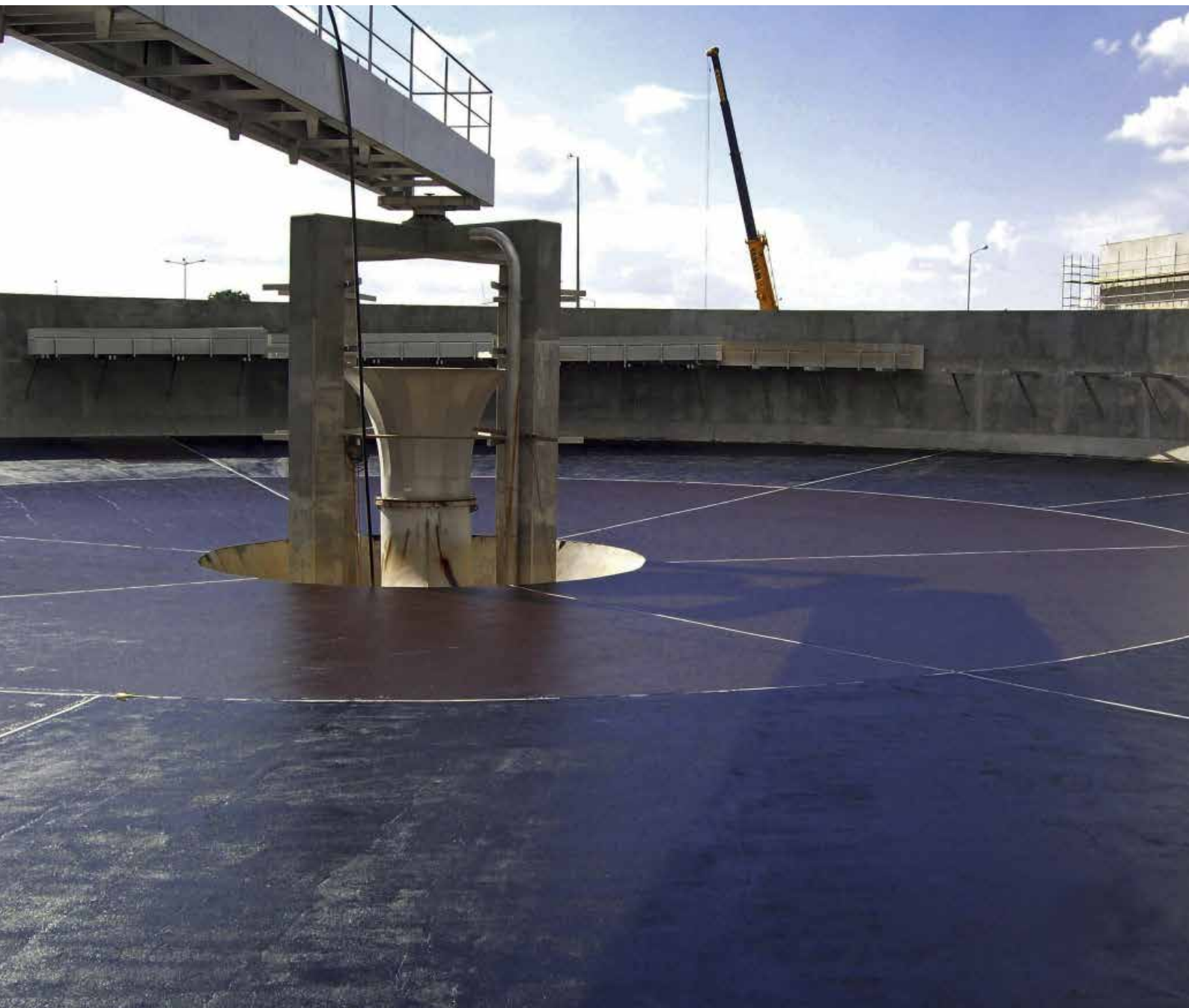
## Project Participants

Investor: MPWiK Wrocław

Main Contractor: Budimex S.A. Cracow

Subcontractor: Nycz, Niwa, Chemex, Kadakryl







## Sindelfingen-Böblingen WWTP, Germany

### Project Description

The plant belongs to the community of the towns of Sindelfingen and Böblingen. This WWTP alone treats over 15 millions cubic meter of waste water annually.

The plant boasts efficient treatment of the waster water. As example, for organic pollutants, a purification rate of over 90% is achieved and at the same time, more than 70% of dissolved nutrients including phosphorus and nitrates are removed from the water.

### The Problem

The two primary settlement tanks and the mechanical scrapper tracks were in need of immediate refurbishment.

### Sika Solutions

Sika could provide a technical solution for each application:

#### Settlement tanks:

##### Concrete repair:

**Sika MonoTop®-601 New** – exposed steel protection

**Sika MonoTop®-602 New** and **603 New** – Polymer modifier repair mortar

**Sika® Icoment®-520** – Resurfacing mortar

**Sika® Poxitar® F** – Chemical protection

#### Scrapper track refurbishments:

**Sikafloor®-156** – Epoxy primer

**Sika® Elastomastic® TF** – wear resistant, crack bridging polyurethane epoxy resin

**Sikafloor®-359** – abrasion resistance polyurethane sealer coat

#### Steel work:

**SikaCor®-EG System** – primer, epoxy intermediate coat and polyurethane top coat

### Project Participants

Owner: Böblingen-Sindelfingen Water Treatment Plant Association

Design: Sindelfingen Buildings and Parks Department

Contractor: Brand GmbH, Bretteb









## Eastern Treatment Plant, Bangholme, Australia

### Project Description

The Eastern Treatment Plant was opened in 1975 at Bangholme to serve Melbourne's growing population and to support the Western Treatment Plant. The plant sits on 1,100 hectares and treats about 330 million litres of sewage a day – 40% of Melbourne's total sewage.

### The Problem

As part of upgrading the existing plant, the sediment tanks needed plastic lids placed on top of them. These lids needed to have a level surface so that they would align when put in place.

The surface of the existing substrate was too uneven to be used, so Melbourne Water required the substrate to be levelled out prior to the application of the lids using a self-levelling product that was resistant to sewerage, had high early strength and was easy to use on site. Total requirement was for 7 m<sup>3</sup>.

### Sika Solutions

Sika was one of the suppliers that was asked to provide a solution. After carefully evaluating the requirements Sika put forward the **Sikadur®-42** (Epoxy Grout) for approval.

After a stringent evaluation process by both the Water Resource Alliance and Melbourne Water's engineering team, the product was chosen based on its flowability, self-levelling capability, along with its bond strength to the existing substrate and high early strength.

Another important factor that was taken into account was that the **Sikadur®-42** was insensitive to moisture during application, cure or whilst in service and had resistance to a wide variety of chemicals.

### Project Participants

Owner: Melbourne Water



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