



# SKANSKA projects

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**XYPEX**® CHEMICAL CORPORATION



SKANSKA + XYPEX PROJECTS

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# WASTEWATER & WATER TREATMENT



### Croton Water Filtration Plant, USA

- 260 million gallons / 730 million litres per day
- Hydrostatic pressure
- Slabs and walls
- Xypex DS-1, Concentrate

This new 12-acre water treatment plant is located in the Bronx, NY. A tight schedule, along with geographical and size-related challenges made this project difficult. As waterproofing was a key priority, the project manager chose Xypex because of its proven track record in waterproofing. This plant is expected to filter 290 million gallons of water per day from the Croton Reservoir: the oldest of the three systems supplying drinking water to New York City. The project involved the drilling, blasting and excavation of 70,000 cubic yards of rock, along with the construction of two connecting water tunnels to the plant. These tunnels are close in proximity to both the public as well as key highway and mass transit facilities.

Approximately 95,000 lbs of Xypex DS-1 was used on this project.

OWNER	New York City – Department of Environmental Protection
ENGINEER	Metcalf & Eddy / Hazen & Sawyer Joint Venture (AECOM Subsidiary)
CONTRACTOR	Skanska / Tully Joint Venture



### West Area CSO Treatment Plant, USA

- Hydrostatic pressure, chemical attack, abrasion
- Water tanks, channels
- Xypex Concentrate, Modified
- 1,670 m<sup>2</sup>

1,670 m<sup>2</sup> (18,000 sq. ft.) of concrete in channels and tanks was waterproofed using Xypex Concentrate and Modified. The specification called for Xypex waterproofing on any walls where there was water on one side and process equipment or outside environment on the other.

OWNER	City of Atlanta
DESIGNER	Metcalf & Eddy (AECOM)
CONTRACTOR	Skanska
SUB CONTRACTOR	Llamas Coatings



### Miami-Dade South District Wastewater Treatment Plant at Black Point, USA

- Hydrostatic pressure
- Clarifiers, oxygenation train, splitter boxes, pump station
- Xypex Admix C-1000, Concentrate, Modified
- 4,830 m<sup>2</sup>

Xypex Admix C-1000 was utilized to waterproof and protect the clarifiers. Xypex Concentrate and Modified were also used. The continuing phase of this project is an oxygen train basin. Admix C-1000 was used at a dosage rate of just under 2%. Phase II will use Xypex Admixture for the waterproofing and protection of the oxygenation train, 4 new clarifiers, splitter boxes and a pump station.

OWNER	Miami-Dade Sewer and Water Authority
DESIGNER	Hazen & Sawyer
CONTRACTOR	Skanska (for the clarifiers)



### Biogas Plant in Tartu, Estonia

- Rehabilitation
- Reservoir
- Xypex Patch'n Plug, Concentrate
- 1,860 m<sup>2</sup>

Xypex Patch'n Plug and Concentrate were used to plug the tie holes and repair leaks in the reservoir at this biogas plant.

OWNER	Tartu Veevark AS
ARCHITECT	IB Johannes Pello
CONTRACTOR	Skanska AS



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# WATER HOLDING



## Aquadream Barrandov, Czech Republic

- Hydrostatic pressure, chemical protection
- Pool slab / walls
- Xypex Admix C-1000, Patch'n Plug
- 1,600 m<sup>2</sup>

Approximately 3 tons of Admix C-1000 was dosed into the concrete for the foundation slab and walls along with the concrete surrounding the swimming pool. Xypex Patch'n Plug was also applied to approximately 200 meters of joints.

OWNER City of Prague  
 DESIGNER Sportovni Projekty s.r.o.  
 CONTRACTOR Skanska



## Lego Facility – Kladno, Czech Republic

- Hydrostatic pressure
- Fire water reservoir ( 9 m walls)
- Xypex Admix C-1000 NF
- 400 m<sup>3</sup>

Xypex Admix C-1000 NF was used to waterproof the fire water reservoir. The walls of the reservoir were 9 m high. The concrete was placed in one pour.

OWNER Lego Group, Denmark  
 DESIGNER Tobrys  
 CONTRACTOR Skanska



## Rakvere Wastewater Treatment Plant, Estonia

- Rehabilitation
- Reservoir
- Xypex Patch'n Plug, Concentrate
- 1,860 m<sup>2</sup>

Xypex Patch'n Plug was used for concrete repairs, and the reservoir surface was coated with Xypex Concentrate for waterproofing and protection of the concrete.

OWNER Rakvere Vesi AS  
 DESIGNER Aqua Consult Baltic ou  
 CONTRACTOR Skanska AS



## Vuosaari Public Swimming Hall, Finland

- Hydrostatic pressure, chemical protection
- Swimming pools
- Xypex Admix C-1000 NF

Xypex Admix C-1000 NF was used to waterproof the pools in this swimming hall. The casting work had many problems, but despite this, Xypex was able to provide waterproofing for the concrete and allow for a watertight structure. After a two year inspection in December of 2013, the structure is still watertight and no problems have been found.

OWNER	Helsingin Urheiluhallit
ARCHITECT	Pro-Ark Oy
ENGINEER	Poyry Oyj
CONTRACTOR	Skanska Oy

### OTHER COMPLETED WATER HOLDING PROJECTS

- **Atrium Shopping Mall Promenade Water Tank, Poland**
- **Office “Green Day” Water Tanks, Poland**



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# GENERAL CONSTRUCTION





### Pisnice Apartment Complex, Czech Republic

- Hydrostatic pressure
- Foundation
- Xypex Admix C-1000 NF

Xypex Admix C-1000 NF was chosen as the only waterproofing for the project. Ekospol, the owners, have decided to use only Xypex to waterproof their projects.

OWNER	Ekospol
DESIGNER	PPP Pardubice
CONTRACTOR	Skanska



### Langlaw Primary School, United Kingdom

- Hydrostatic pressure
- Floor slab, retaining walls
- Xypex Concentrate, Dry-Pac

One coat of Xypex Concentrate slurry was applied to the floor slab and retaining walls to one side of the new school development. Xypex Dry-Pac was also applied to the inside of the wall.

CONTRACTOR	Skanska UK
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### Nad Kunderatkou Residential Building, Czech Republic

- Hydrostatic pressure
- Foundation walls, floors
- Xypex Admix C-1000 NF
- 200 m<sup>3</sup>

Xypex Admix C-1000 NF was chosen by Skanska to waterproof the foundation of this new residential building.

OWNER	A Plus
CONTRACTOR	Skanska
APPLICATOR	Skanska Transbeton (Skanska Ready Mix Division)



## Kaiser Permanente Hospital, USA

- Corrosion
- Roof deck
- Xypex Concentrate, Modified
- 165 m<sup>2</sup>

Xypex Concentrate was applied as protection against water from AC units passing through roof into the hospital.

OWNER	Kaiser Hospital, Oakland CA
CONTRACTOR	Skanska
APPLICATOR	Nibbi Brothers Construction / Concrete Division



## University Medical Hospital, USA

- Hydrostatic pressure
- Foundation / below grade structures
- Xypex Admix C-1000, Concentrate, Modified
- 6,800 kg

Approximately 6,800 kg of Xypex Admix C-1000 was used on various below grade structures. In addition, Xypex Concentrate and Modified were used to waterproof and protect miscellaneous concrete structures.

OWNER	Louisiana Medical Center Foundation
ARCHITECT	NBBJ – Seattle
CONTRACTOR	Skanska
APPLICATOR	ABG Caulking
CONCRETE PRODUCER	Lafarge



## Amgen Helix Project, USA

- Hydrostatic pressure
- Ground beams, slab, water feature
- Xypex Admix

Xypex Admix was used in the ground beams and slab within the foundation as well as in the water feature.

OWNER	Amgen
ARCHITECT	Flad Architects
ENGINEER	KPFF
CONTRACTOR	Skanska



### Nove Letany A/B Apartment Complex, Czech Republic

- Hydrostatic pressure
- Foundation
- Xypex Admix C-1000 NF
- 2,100 m<sup>3</sup>

The developer has specified Xypex as one of the only allowed waterproofing materials on their projects as a result of consistent success with Xypex products. For this project, Xypex Admix C-1000 NF was dosed into the foundation.

OWNER/DESIGNER Central Group (Developer)  
 CONTRACTOR Skanska  
 APPLICATOR Nekap



### Coldharbour Lane Apartments, United Kingdom

- Hydrostatic pressure
- Foundation
- Xypex Admix, Concentrate

While a self adhesive membrane was originally specified on this project, Xypex Admix and Concentrate were chosen instead to waterproof and protect the foundations of these two residential apartment buildings. This enabled significant savings in time and cost due to the simplicity of the Xypex system.

CONTRACTOR Skanska  
 APPLICATOR Natta



### Meilahti Hospital, Finland

- Hydrostatic pressure
- Foundation walls
- Shotcrete application
- 6,000 kg of Xypex Admix

6,000 kgs of Xypex Admix was dosed into the shotcrete used for this project.

OWNER Helsinki Hospital Foundation  
 DESIGNER Ramboll Oy  
 CONTRACTOR Skanska and Kalliorakennus



## Apartment Complex Nad Modranskou Rokli-Kamyk, Czech Republic

- Hydrostatic pressure
- Foundation
- Xypex Admix C-1000 NF
- 3,000 m<sup>3</sup>

While a competitor's product was originally specified, the specification was changed to Xypex by the contractor as a result of previous good results with Xypex. Xypex Admix C-1000 NF was dosed into the concrete for the foundation of this new apartment building.

OWNER	Central Group
DESIGNER	Novak and Partner
CONTRACTOR	Skanska

### OTHER COMPLETED GENERAL CONSTRUCTION PROJECTS

- Heritage Elementary School, USA
- Cleveland Elementary School Renovation, USA
- Alajarvi Swimming Hall, Finland
- Zuckermanel Bratislava, Slovakia
- Bratislava Novy Stein, Slovakia



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# TRANSPORTATION & BRIDGES



## Vuoli Tunnel, Vuosaari Harbour, Finland

- Hydrostatic pressure
- 50 mm shotcrete lining
- Xypex Admix C-1000
- 3,600 m

Xypex Admix C-1000 NF was used to waterproof and protect the 50 mm thick shotcrete lining on the rail and two road tunnels linking the harbour with Helsinki. Over 28,000 kg of Xypex Admix C-1000 NF were used to waterproof and protect shotcrete liners of the three kilometre long underground road and rail tunnels. The mix design incorporated 470 kg of Portland cement per m<sup>3</sup>, and Xypex Admix C-1000 NF was dosed at 1.1% (5 kg) per m<sup>3</sup>.

OWNER	Helsinki Road Administration
DESIGNER	Kalliosuunnittely Rocplan Oy Ltd.
CONTRACTOR	Skanska – Tekra Oy



## Fredrikstad Bascule Bridge, Norway

- Hydrostatic pressure
- “Crane bridge”

Xypex was used within this unique “crane bridge” in Norway. To allow for tall ships to pass, the designers at AAS-Jakobsen created a different type of bascule bridge involving a crane structure to separate and lift the bridge deck. Xypex was applied inside the Axis 2 tower at the base of the crane structure. The concrete surrounding the cylinders and engine was waterproofed using Xypex products.

OWNER	Statens Vegvesen
DESIGNER	AAS Jakobsen
CONTRACTOR	Skanska Norge AS



### A-2 Motorway Parking Slab, Poland

- Chemical protection
- Concrete slab
- Xypex Concentrate, Modified
- 200 m<sup>2</sup>

Xypex Concentrate and Modified were applied to the surface of the concrete parking slab to prevent fuel, petrol and oil from penetrating into the soil below.

OWNER	Autostrady Wielkopolskie SA
CONTRACTOR	Skanska Poland
APPLICATOR	ABH Nomos Ltd.



### Gdanski Subway Station Pedestrian Underpass, Poland

- Hydrostatic pressure
- Pedestrian underpass tunnel
- Xypex Concentrate, Modified
- 3,156 m<sup>2</sup>

Xypex Concentrate and Modified were used to waterproof and protect the concrete within this underground pedestrian tunnel connecting two subway stations. While a bentonite membrane was initially specified, Xypex was chosen as a substitute due to easier installation. Hydrostatic pressure and low temperatures were a concern, as the subway is located near to a river.

OWNER	Miasto Stołeczne Warszawa
ARCHITECT	Biuro Projektów Architektonicznych i Budowniczych AIB sp z.o.o.
CONTRACTOR	Skanska
ENGINEER	2TM
CONCRETE PRODUCER	Skanska