



XYPEX® The World Standard in Concrete Waterproofing by Crystallization™

XYPEX®

**NO
EQUAL**



Concrete
(Untreated)



Xypex Crystallization
(Initiated)



Xypex Crystallization
(Mature)

When you select Xypex, you've chosen the best: more than 40 years of independent testing of our original crystalline technology...and still **no equal**; our many years in over 70 countries have made us specialists; our unmatched product and service standards provide confidence and peace-of-mind to architects, engineers, contractors and concrete producers serious about long-term concrete waterproofing, protection and durability.

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**NO
EQUAL**

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XYPEX

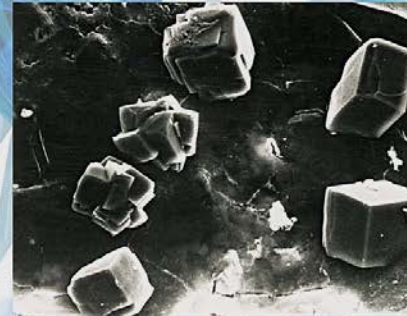
Crystalline Growth

CHEMICAL CORPORATION

Independent tests conducted in Japan by the Central Research Laboratory of Nikki Shoji revealed crystalline growth at 50mm. This report is illustrated with electron microscope photographs of the crystallization.

A concrete test piece of cylindrical form was treated on one end surface with a slurry coating of Xypex Concentrate and water mist-spray cured for ten days. The opposite untreated end of the test piece was then immersed in shallow water for a period of fourteen days.

An untreated control sample was sheared through 50mm below the end surface. The photograph on the right is of the sheared face. Precipitated Ca(OH)_2 Calcium Hydroxide together with cubic and rhombic particles are visible.



The sample treated with Xypex Concentrate was similarly sheared through at 50mm below the end surface. Photograph at the right is of the sheared face. Crystal formation by catalytic reaction emanating from the Xypex Concentrate commences. This is seen starting from the areas with Ca(OH)_2 particles with growth towards the C-S-H gel.



This photograph of the sheared face shows the considerable growth of crystallization developed from the gel of C-S-H. Therefore, the crystals had penetrated a minimum of 50mm within the three week period after the surface treatment with Xypex Concentrate.



Xypex Vietnam Projects



THE LANDMARK 81 TOWER

Tan Cang Street, Binh Thanh Dist. HCMC



Xypex Concentrate and Xypex Patch'N Plug were used by Bachy Soletanche to repair defects at concrete piles and portion of the diaphragm wall that is adjacent to the Saigon River. Xypex Concentrate was also supplied with technical support to Cotecon, with MACE approval, for use to seal all the pile caps below the 8 meter thick matt foundation. After the pre-installed swellable waterstops became ineffective due to premature swelling.

THE LANDMARK 81 TOWER

Construction site photos



VINHOMES CENTRAL PARK RESIDENTIAL DEVELOPMENT

Tan Cang Street, Binh Thanh Dist., HCMC



Over 8,100 kgs of Xypex Concentrate were supplied to the main contractor Delta Construction JV Co. to repair and waterproof the perimeter diaphragm walls of the whole development.

VINHOMES CENTRAL PARK RESIDENTIAL DEVELOPMENT

Construction site photos





VIETCOMBANK TOWER

5 Me Linh Square, District 1, HCMC



Due to this project's high profile and its location close to the Saigon River, the Owner's concern to the durability against extreme hydrostatic pressure was to be expected. After Bachy Soletanche spot repaired the diaphragm wall leakage with Xypex, the Owner decided to waterproof the whole 4 level basement diaphragm walls with Xypex Concentrate coatings.

SAIGON CENTER – PHASE 2 & 3

Le Loi Street, Dist. 1, HCMC



Phase 2 & 3 expansion of this project involved connecting a new 6 level basement to an existing 3 level basement of the Phase 1. Xypex Concentrate and Patch'N Plug were used exclusively to repair all concrete defects and leakage against negative hydrostatic pressure by the diaphragm wall contractor, Bachy Soletanche.

SAIGON CENTER PHASE 2 & 3

Construction site photos



Repairs to diaphragm walls and defective construction involved chipping out defective concrete to sound concrete, plugged all running leaks with Xypex Patch'N Plug then applied Xypex Concentrate in Dry-Pac form into clean saturated construction joints then applied two coats of Xypex Concentrate in slurry form over the entire repaired areas. Moist cure for 2 days then allowed to air dry.

VINHOM BA SON GOLDEN RIVER – PHASE 1

Le Duan Street, Dist.1, HCMC



After witnessing the result of dryness in the Saigon Center Phase 2-3 basement, Hoa Binh Construction also purchased Xypex Concentrate in 2017 for their own repairs at the Phase 1 (6 towers on the right) basement of this project on the site of the former Ba Son Shipyard. Bachy Soletanche also used Xypex to repair defects at the two level diaphragm wall.



VINCOM A PLAZA

Le Loi Street, Dist.1, HCMC



Learning from experience in Phase 1 of Vincom Plaza, and the sensitive location next to the People's Committee Building where construction was carried out under tight security, in order to avoid future repairs in the basement, Vingroup decided to use Xypex Concentrate to waterproof the whole 5 level basement diaphragm walls of this project. Works were carried out by Bachy Soletanche with technical support from Xypex Vietnam.

THE EVERICH MIXED USE COMPLEX

Dist.11, HCMC



Xypex was recommended to the Owner, Phat Dat, by the design consultant, Chan Phuong Engineering, after witnessing the results of leak repairs by D-Wall Contractor, Bachy Soletanche, at the three level basement diaphragm walls. Works included 13,000 m² of diaphragm walls with 950 linear meters of construction joints. After the successful completion of the basement, the Owner awarded an additional 25,000 m² of the above ground structure, covering all roofs, terraces, public pool, 10 private penthouse pools, tanks, planters, balconies, landscapes, and bathrooms. Construction management was Meindhart Vietnam, architect was Ong & Ong, main contractor was Cotecon. Completed in 2010.



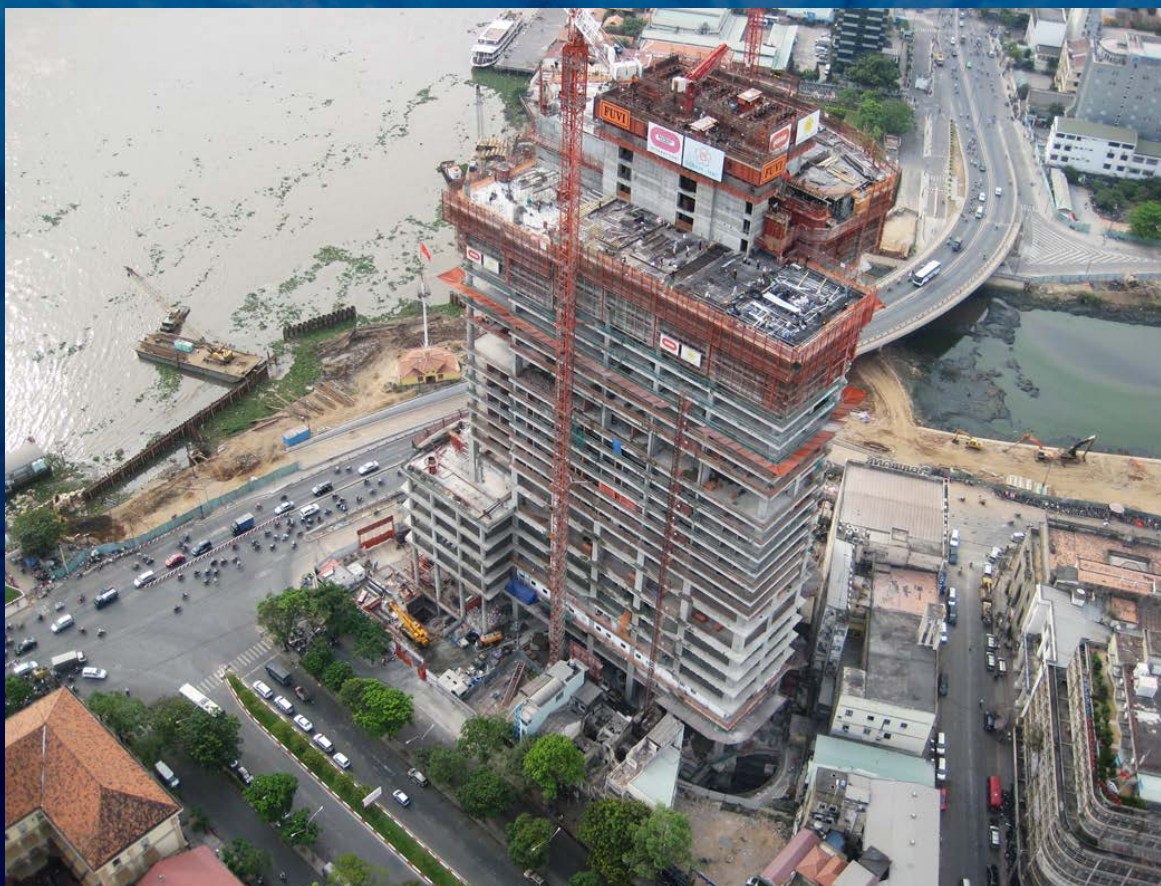
THE EVERICH MIXED USE COMPLEX

Construction site photos



SAIGON M&C TOWER BASEMENT SLAB

Dist. 1, HCMC



The concrete specialist of Bouygues Batiment International, the Main Contractor of this project, specifically demanded to use Xypex Admix for this project's 5th level basement's slab. Approximately 2,000 m³ of the top 30cm of the 1 to 1.5 meter thick raft slab was dosed with 0.9% Xypex Admix C-1000NF per the weight of cement, and 1,500 m of construction joints were sealed with Xypex Concentrate Dry-Pac below the face of slab. Another 110 m² of diaphragm walls at basement level 3 & 4, and 672 linear meters of vertical construction joints were also repaired and sealed with Xypex. Works completed in 2013.

KHANH DIEN SPRING LIFE DEVELOPMENT – PHASE 1

Dist. 2, HCMC



Main Contractor COFICO selected Xypex over membrane for the Phase 1 of this project to save at least 2 months of construction time by waterproofing from the inside of the basement instead of the outside due to the project location next to the river. Total quantity consist of 928 m² of diaphragm walls, 11,350m² of basement slab, 4,200 m of construction joints and 1,220 m² of water tank, septic tank, and basement roof. Project completed in 2012.

KHANH DIEN SPRING LIFE DEVELOPMENT

Construction site photo



THE METROPOLITAN

Dist. 1, HCMC

After the completion of the project, there was substantial settlement of the basement causing extensive leaks from cracks in many walls, tanks, and ceilings. Since the project used membrane as the primary waterproofing system, it can not be replaced or repaired by random injections. Xypex was called in by the Main Contractor Leighton Asia Ltd. to seal all cracks and leaks on basement walls, basement slabs, basement ceilings, elevator pits, 4 water tanks and a septic tank against negative hydrostatic pressure. Repairs completed in 1998 with excellent results and had no problem since.

Following the success, the building management office, East Asia Property Group also requested Xypex Vietnam to reseal leaks at the expansion joints of the knockout panels at the main entrance ground slab with Xypex FCM. All repairs were completed without any recall since completion in 2001.





THE METROPOLITAN

Construction site photos



DIAMOND PLAZA

Dist.1, HCMC

Posco E&C selected Xypex to waterproof the basement including screen wall curbs and gutter drainage around the diaphragm wall, all pits, vaults, tanks, and the septic tank. Towards the end of construction after shutting down the construction pump, groundwater sheared through the bentonite waterstops under the double slab and immediately flooded the basement. Xypex was called in to help control the flood. 16 slots were cut into the slab to form a channel to direct water to a new permanent pump.





DIAMOND PLAZA

Construction site photos



After successful waterproofing of the basement, and repairing serious flood caused by the failure of the bentonite waterstops installed at the foundation slab, Xypex was awarded the above ground portions of the project. The areas included exterior slabs, entrances, toilets, bathrooms, and mechanical rooms. Total basement areas treated was approximately 4,800 m², and the above ground portion area treated was about 3,350 m². The project completed in 1998.

DAI QUANG MINH SALA NEW CITY, SARIMI & SARINA

Dist. 2, HCMC



Xypex was requested to perform negative repairs to stop leaks underneath the terrace and pool area at Block M1 and M2 of the Sarimi development after various attempts using other repairs failed. After successfully repaired these areas, Xypex was awarded the Sarina development project Block A, B, and C, covering all roofs, terraces, water features, and tanks. Total quantity is approximately 7,000m², project completing in June 2018.



DAI QUANG MINH – SALA NEW CITY, SARIMI & SARINA

Construction site photos



Sarina Developemt



Sarimi Developemt

FIDECO TOWER (VP BANK)

Dist. 1, HCMC

Xypex Vietnam was contracted by Bachy Soletanche to repair all defects at the basement diaphragm walls. Afterward 2,720 kg of Xypex Concentrate and 645 kg of Xypex Patch'N Plug was supplied with technical support to COFICO to waterproof the basement slab, septic tank, water tanks, and elevator pit. Estimated quantity was 2,000 m² and 350 meters of construction joints. Design consultant was Meinhardt Vietnam. Project completed in April 2007.





FIDECO TOWER (VP BANK)

Construction site photos





THE CENTEC TOWER

Dist. 1, HCMC

This building used a well known membrane to waterproof its 3rd level basement slab. Before the end of construction, the membrane failed, causing immediate flooding to the basement. Since the membrane can not be fixed or repaired, Bachy Soletanche, who used Xypex for their own repairs on the diaphragm wall, introduced Xypex Vietnam to Southern Star Corporation, the Owner, in order to rescue the project.

Using Xypex Concentrate and Patch'N Plug, the whole 3rd level basement had to be drained with continuous pumping and re-waterproofed as a new project from the inside. Within six weeks of waterproofing, the basement is completely dried. The contracted quantity is approximately 2,200 m² of slab and 300 meters of construction joints. The main contractor was COFICO, and the basement slab contractor was Delta Construction. The project was completed in December 2008 with total success. No leaks were ever reported to this date.





THE CENTEC TOWER

Construction site photos



HUNG VUONG PAZA

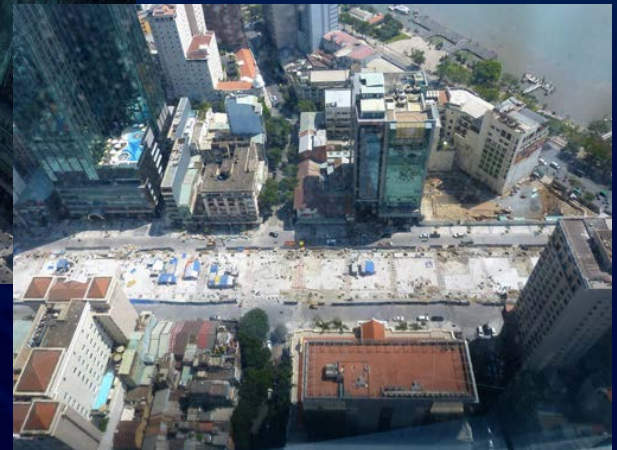
Hung Vuong Blvd., Dist. 5, HCMC

Xypex Vietnam was selected by COFICO to waterproof the domestic water tank, fire fighting tank and the roof top swimming pool of this project. The total quantity is approximately 3,300 m² and 550 meters of construction joint. Project completed in December 2007.



HCMC MTR LINE 1 CP-1B OPERA HOUSE D-WALL REPAIR

Le Loi Street & Nguyen Hue Street, Dist. 1, HCMC



Xypex Concentrate and Xypex Patch'N Plug was the standard system used by the D-Wall contractor, Bachy Soletanche, to repair all concrete defects and spot leaks for the whole diaphragm wall system of the Opera House Station.

HCMC MRT LINE 1 CP-2

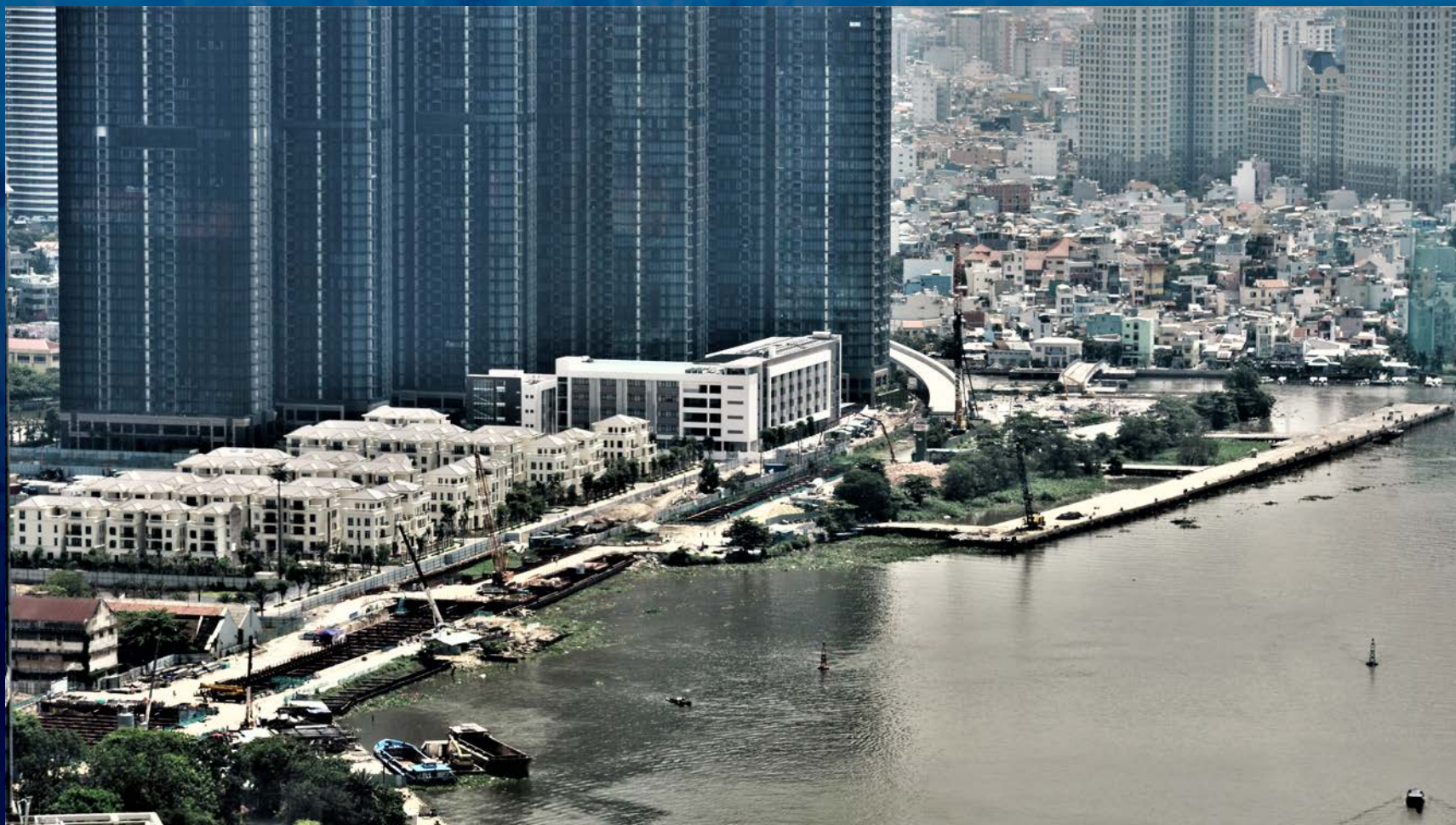
Thao Dien, Cat Lai, Rach Chiet, Binh Thai, High Tech Park, & Thu Duc Stations Crack Repairs



Xypex Vietnam was selected by GS E&C, the Main Contractor, after trial comparison against other competing systems to repair all the slab and ceiling cracks in these 6 aboveground metro stations. All repairs completed by February 2018 under the supervision of Hoa Binh Construction Co., the sub-contractor. Total quantity is approximately 650 linear meters of cracks.

HCMC MRT LINE 1 CP-1B BA SON STATION D-WALL REPAIR

Dist. 1, HCMC



A section of this 20 meters deep basement diaphragm wall was replaced with pilings due to soil conditions right next to the Saigon River. Extreme leakage of water halted the construction. After repeated grout injection and repairs with various products without success, SMJO requested Xypex to help. After over 1 month of negative repair, all extreme leaks were stopped and construction can resume to pour the B-2 level slab to stabilize the D-Wall. Over 70 m of vertical joints were sealed, repair completed by June 2018. Additional materials were supplied with technical support for repairs into 2019.



HCMC MRT LINE 1 CP-1B BA SON STATION D-WALL REPAIR

Construction site photos



HCMC MRT LINE 1 CP-1B BA SON STATION D-WALL REPAIR

Construction site photos



Defective concrete in construction joints must be chipped to sound concrete then installed drain pipes to release hydrostatic pressure before plugging with Xypex Patch'N Plug to stop running leaks. Afterward, Xypex Concentrate Dry-Pac was applied to generate crystalline growth to integrate new and old concrete.



HCMC MRT LINE 1 CP-1B BA SON STATION D-WALL REPAIR

Construction site photos



Xypex repaired areas beginning to dry up leaving a light grayish color.

HCMC MRT LINE 1 CP-1B OPERA HOUSE STATION

Le Loi & Nguyen Hue Blvd, Dist. 1, HCMC



After comparison mock up against another crystalline system, Xypex is the obvious winner, and selected by the HCMC MAUR for the main contractor SMJO to waterproof the whole 35 meter depth D-Wall system of the Opera House Station by spraying 2 coats of Xypex Concentrate onto all 5 levels of D-Wall. Estimated quantity is approximately 11,800 m². Application commenced in late March 2018 but unfortunately in late June, decision from Hanoi was to revert back to the original design of building a screen wall, hence, the waterproofing work was cancelled.

HCMC WATER ENVIRONMENT PROJECT – PACKAGE C INTERMEDIATE WASTEWATER PUMP STATION

Ho Chi Minh City

After trying other system without results, the NES Joint Venture (Nishimatsu-Ebara-Shimizu) selected Xypex and approved by Pacific Consultant International, the design consultant, to supply and provide technical support to Bachy Soletanche Vietnam for the repair of this pump station's 20 meters deep, and 1.5 meters thick diaphragm walls.

To ensure the Xypex crystalline growth to fully reach its depth within a limited time span, holes were drilled deep into the concrete and Xypex Concentrate Dry-Pac were packed deep into these holes. After filling up to near the face of concrete with a 2:1 cement mortar dosed with 2% Xypex Admix, Xypex Concentrate Dry-Pac were again applied over the cement mortar and covered with Xypex Patch'N Plug to protect the repairs from immediate ponding due to heavy rain. This project was completed in early 2008.

After the success of this repair, Xypex was also supplied for repairing manholes & drainage pipes throughout 2008 in various locations in the city.



HCMC WATER ENVIRONMENT PROJECT – PACKAGE C INTERMEDIATE WASTEWATER PUMP STATION

Construction site photos





KONISHI VIETNAM BIOTECHNOLOGY PLANT

Que Vo I.P., Bac Ninh Province



Konishi Vietnam Biotechnological Co., Ltd., a subsidiary of Nippon Zoki invested this plant to make pharmaceutical products extracted from the skin of white rabbits. This 1st phase of the project costed an estimated US\$62 million, covering 3 hectares and to be put into operation by April, 2014. Obayashi Corporation, the main contractor, selected Xypex Vietnam to supply materials with technical support to apply 2 coats of Xypex Concentrate to all 48 subterranean tanks at a total quantity of 7,000 m².



B-BRAUN VIETNAM FACTORY EXPANSION

Thanh Oai I.P., Ha Tay Dist., Hanoi



Xypex was specified by HBP for the factory slab of this expansion. Initial thought was to use Xypex Admix but in order to simplify the construction process, the decision switched to using Xypex Concentrate. Instead of applying the Xypex coatings over the slab, it is mixed into a slurry and pour over the reinforcing steel onto the lean concrete at 1.3 kg/m². Total quantity applied is 5,630 m² and the project was completed in late 2014.



B-BRAUN VIETNAM FACTORY EXPANSION

Construction site photos





BLUESCOPE STEEL FACTORY

Phu My I Industrial Zone, Ba Ria-Vung Tau



Xypex was selected to waterproof the basement pits, fuel pits, and water tanks for this project. The tanks were completed long before other facilities were installed, many leaks appeared due to shrinkage cracks under the hot sun, but after about 2 weeks filled with water, almost all of the cracks self-healed themselves, except for a few settlement cracks which were easily touch up from the exterior. Total quantity was about 2,919 m², work commenced on basement pits in April 2004, with additional works completed in consecutive phases and completed in December 2004.



SANYO HOME APPLIANCES PHASE 1 & 2

Bien Hoa Industrial Zone II, Dong Nai Province



After continuous delays using bitumen membrane to waterproof the Phase 1 office building roof, Obayashi Corporation realized they need to switch to Xypex coatings to avoid further delays. Two coats of Xypex coatings were applied every afternoon right after the rain, to the factory gutters. A septic tank, 2 restroom building roofs, and an utility room roof were also waterproofed without any protection mortar. Following the excellent results and on time completion, Xypex was used again for the Phase 2 factory gutters, a small roof, and repaired a heavily defective septic tank. Total quantity was 4,100 m², completed August 1997.

BUOM MA THUOT SANITATION SUB-COMPONENT

Buon Ma Thuot City, Dak Lak Province



Xypex was specified by Carl Bro als, the design consultant, to supply and provide technical support to coat approximately 1,500 m² surface of 15 concrete structures in this sanitation project. Xypex was selected for its proven concrete protection against harsh environment. Work was carried out by Tan Viet Tan Construction under supervision of Per Aarsleff A/S, the main contractor of the project. Work started in June and completed by end of July, 2004. (Aerial photo courtesy of Per Aarsleff A/S)



DAU TIENG DAM – UPSTREAM DISCHARGE CHAMBER

Tay Ninh Province



After successful trial repair in 1997, Xypex was specified by Hydraulic Engineering Consultant No. 2. The work was executed by Construction Co. No. 43 with technical support from Xypex Vietnam to rehabilitate approximately 400 m² of the upstream discharge chamber. The project was completed in July 2000.



DAU TIENG DAM – DOWNSTREAM DISCHARGE CHAMBER

Tay Ninh Province



After the success with the upstream chamber repair, Construction Co. No. 43 continue to conduct various repairs with Xypex Concetrate and Xypex Patch'N Plug on the downstream side against extreme hydrostatic pressure. Repairs were done under Xypex Vietnam's technical support with great success from late 2000 through early 2001.



Thank you for being a wonderful audience.

ANY QUESTIONS?





Don't just waterproof your projects

XYPEX IT !



**Concrete Waterproofing
By Crystallization™**

Learn more at
xypex.com