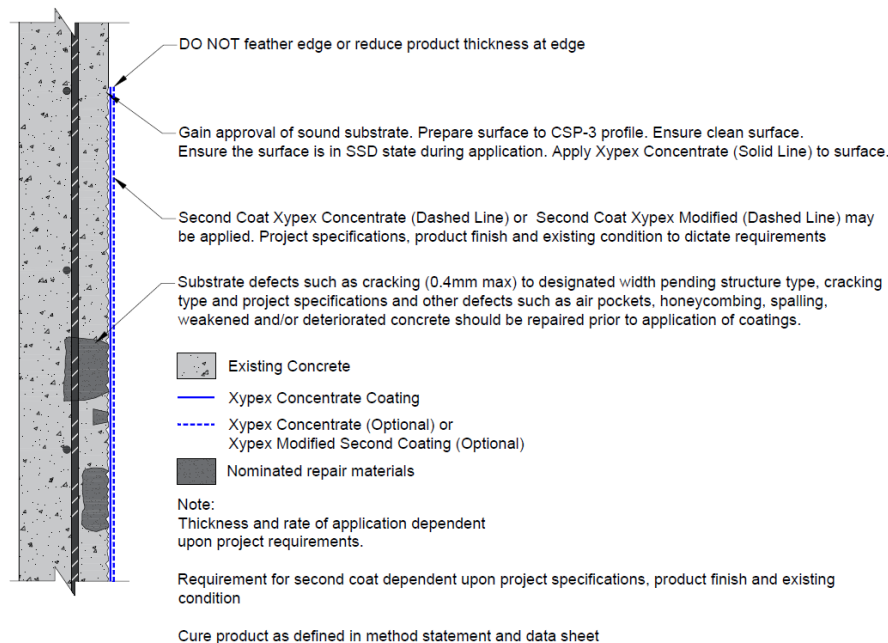


XYPEX CRYSTALLINE COATING SYSTEM

Xypex Concentrate Coating

2018-06

The information presented is in addition to Xypex product data sheets and is not meant to replace these or any other installation guides but rather is meant to give a general description of the installation practices and procedures surrounding the use of Xypex products for waterproofing and protecting concrete and while normally provide an acceptable final appearance they are not meant as aesthetic finishes. Refer to Safety Data Sheets for safety information, applicators need to use all products and equipment in line with manufacturers and industry requirements.



GENERAL

Xypex Concentrate is recommended as a waterproofing, protection solution to new structures or as a remedial solution (surface treatment) to existing structures including, but not limited to, dams, water and wastewater treatment plants, swimming pools, bridges, culverts, retaining walls, tunnel and underground structures, parking structures, roof decks, wharves, jetties and foundations.

After the application of *Xypex Concentrate*, the active chemicals diffuse into the concrete substrate and react with moisture and the constituents of hardened concrete to cause a catalytic reaction. This reaction generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete and prevents the penetration of water and other liquids from any direction. *Xypex Concentrate* is highly resistant to aggressive chemicals (pH range between 3 and 11) and can be applied to the positive or negative side of the concrete surface.

This method statement must be used in conjunction with the product datasheet.

PRODUCTS

Xypex Concentrate
Xypex Gamma Cure (supplementary)

SURFACE PREPARATION

- Concrete surfaces, which are to be treated, must be clean and free of laitance, dirt, film, paint, coating or other foreign material. The concrete surface must also have an open capillary system to provide "tooth and suction" for better diffusion of the Xypex crystalline chemicals into the concrete. A surface texture of CSP-3 as per the International Concrete Repair Institute Guidelines, refer to Surface Profile Chips, must be achieved. Surface preparation is generally achieved by hydro-demolition (approx 5000psi or as required) conduct test application prior to full application. Other methods such as scalers, abrasive blasting, shot blasting or specialist equipment may be used. If abrasive means are used, the exposed area must be washed with high-pressure water blasting to remove all loose materials and debris from the concrete surface, open the capillary system and also saturate the substrate. Care is to be taken to avoid damage to the sound concrete adjacent/below the repair area.

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2. Repairs to cracks, honeycombing, airpockets, defects are to be repaired as per Xypex Methodologies.
3. The concrete surface must be in a saturated surface dry (SSD) condition immediately prior to the application of Xypex Concentrate. If the surface dries out after initial water application, it must be re-wetted using a fine mist spray of clean water. Remove excess water before application such that there is no glistening water on the surface.
4. For fresh concrete, the period between 24 hours and 72 hours is the optimum time to apply *Xypex Concentrate* as the concrete is still 'green' and requires very little pre wetting.

MIXING FOR XYPEX CONCENTRATE SLURRY

Mix *Xypex Concentrate* powder with clean water to a creamy consistency in the following proportions:

For Brush Application

2 Coat Application

0.65 - 0.8 kg/m² Mix 5 parts powder to 2 parts water

Single Heavy Coat Application

0.8 - 1.0 kg/m² Mix 6 parts powder to 2 parts water

For Spray Application

0.65 - 0.8 kg/m² 2 Coat Spray Application: Mix 5 parts powder to 3 parts water (ratio may vary with equipment type).

0.8 - 1.0 kg/m² Single Coat spray application: Mix 5 parts powder to 3 parts water (ratio may vary with equipment type).

Do not mix more dry powder than can be applied in 20 minutes. Allow mixture to stand and start to harden, then re-agitate. If the mix starts to harden, stir briefly to maintain fluid. DO NOT add extra water.

COATING APPLICATION

1. The *Xypex Concentrate* must not be applied under rainy conditions or when ambient temperature is below 4°C. Avoid application of the Xypex coating in hot and windy conditions as the coating may dry out prematurely. Recommended to not install in temperatures > 30°C.
2. Apply one coat of *Xypex Concentrate* slurry uniformly at the rate of approximately 0.8 - 1 kg/m² for single coat or 0.65 - 0.8 kg/m² for 2 coat application and to a nominal thickness of 1.25 mm by semi-stiff nylon bristle brush or specialised spray equipment. When applying *Xypex Concentrate*, ensure the slurry penetrates and fills any minor defects such as cracks/pores/voids. Application by stiff bristle brush must use a circular or 'figure 8' brush stroke motion to create a non-uniform pattern. The application and this required method is to ensure no weak plane in the coating is developed, creates a consistent/uniform application of the slurry and achieves an appropriate slurry thickness and roughness.
3. When a second coat (*Xypex Concentrate* or *Xypex Modified*) is required, it must be applied after the first coat has reached near final set but while it is still "green". In normal conditions, after 12 to 18 hours of application of the first layer of *Xypex Concentrate*. In this case, the second coat must be applied on a SSD condition of the first coat by applying a fine mist spray of clean water.

CURING

1. Curing should begin as soon as the *Xypex Concentrate* has set to the point where it will not be damaged by a fine mist spray of clean water.
2. Generally, a fine mist spray of clean water is used for curing the *Xypex Concentrate*.
3. It is generally sufficient to spray *Xypex Concentrate* surfaces three times per day for 2-3 days. In hot conditions/ climate, spraying may be required more frequently to prevent premature drying.

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4. During the curing period, the coating must be protected from rainfall, frost, wind, and temperatures below 4°C for a period of not less than 48 hours after application.
5. Alternatively, a curing compound which must be compliant to AS 3799 or ASTM C309 or alternatively *Xypex Gamma Cure* can be used for curing after the initial set of the *Xypex Concentrate* coating (normally after 1 to 2 hours of concentrate application).

APPLICATION OF PAINT, EPOXY OR SIMILAR COATINGS

Consult epoxy and paint manufacturer for recommended application timeframe and additional coating instructions and/or restrictions. Pressure washing, blasting or etching may be required and removal of *Xypex Concentrate* coatings may be required.

Removal of *Xypex Concentrate* coating may be required after active chemicals have diffused into the concrete substrate and reacted with moisture and the constituents of hardened concrete and caused a catalytic reaction. This reaction has generated non-soluble crystalline formations throughout the pores and capillary tracts of the concrete, as well as cracks, permanently sealing the concrete and preventing the penetration of water and other liquids from any direction.

Prior to the installation, it is recommended that a test section be completed under ambient and project conditions to demonstrate acceptable bond.

APPLICATION OF GROUT, CEMENT PARGE COAT, PLASTER OR STUCCO

It is recommended that any cementitious system be applied over the *Xypex* coating after the *Xypex* is near final set but while it is still 'green' (12 to 18 hours). Applications: Contact *Xypex* Technical Department or your local *Xypex* Representative regarding surface preparation and other procedures for installations of other materials onto *Xypex* coatings. Removal of *Xypex Concentrate* coating may be required after active chemicals have diffused into the concrete substrate and reacted with moisture and the constituents of hardened concrete to have caused a catalytic reaction. This reaction has generated non-soluble crystalline formations throughout the pores and capillary tracts of the concrete, as well as cracks, permanently

sealing the concrete and preventing the penetration of water and other liquids from any direction. Prior to the installation, it is recommended that a test section be completed under anticipation ambient and project conditions to demonstrate acceptable bond.

Note: *Xypex* Australia makes no representations or warranties regarding the compatibility of *Xypex* products with plasters, stuccos, tiles and other surface applied materials. It is the responsibility of the installer of these surface-applied materials to take measures as necessary, including testing, to ensure acceptance by or adhesion to the *Xypex* treated surface.

NOTE

- For concrete structures that hold liquids (e.g. reservoirs, swimming pools, tanks, etc.), *Xypex* should be cured for 3 days and allowed to set for 12 days (15 days total). For partially hot liquid (waste water) and chemical retaining structures, allow 18 days setting (21 days total). Before filling the structure with liquid. Should this period not be sufficient for project reasons. Contact *Xypex* Technical Department for alternative methods and coatings.
- It is recommended that a small test area be completed prior to the commencement of whole surface treatment so that the method and results can be reviewed and revised where necessary.
- Where the coating has been applied to an external face of a wall, do not back fill for 36 hours after application. Protect the coating from coarse backfilling material, moisture condition backfill to a 100% Standard Optimum Moisture Content, place the backfilling material with care.