XYPEX® MODIFIED

TECHNICAL DATA SHEET

Product Description

Xypex is a unique chemical treatment for the waterproofing and protection of concrete. Xypex Modified consists of cement, finely graded sand and active proprietary chemicals; it is applied as a cementitious slurry to the pre-saturated surface of existing above and below-grade structures. When applied as a second coat, Xypex Modified chemically reinforces Xypex Concentrate where two coats are required and produces a harder finish.

The active chemicals diffuse into the 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, as well as cracks, permanently sealing the concrete and preventing the penetration of water and other liquids from any direction, even under high hydrostatic pressure.

Xypex Modified is intended for use only by professional applicators.

Recommended for

- Reservoirs
- Sewage and water treatment plants
- Secondary containment structures
- Tunnels and subway systems
- Underground vaults
- Foundations / basements
- Parking structures
- Swimming pools

Advantages

- Resists extreme hydrostatic pressure
- Resistant to aggressive environments
- Can be applied to the positive or the negative side of the concrete surface
- Non-toxic / no VOCs
- Permanent
- Does not require a dry surface for application
- Allows concrete to breathe
- Heals static cracks up to 0,5 mm

Product Characteristics

Appearance and Colour	grey powder
Bulk Density of loose Powder (EN 1097-3+Z1)	1150 +/- 50 kg/m^3
Density of Fresh Mortar (EN 1015-3)	1900 +/- 50 kg/m^3
Compressive Strength at 28 days (EN 12190)	≥ 15,0 MPa
Adhesive Bond (EN 1542)	≥ 1,0 MPa
Durability, Thermal Compatibility after 30 cycles (EN 13687-4)	≥ 1,0 MPa
Water Penetration Depth of Concrete	test specimen < control
Chloride Diffusion of Concrete	test specimen < control
Self-healing of Static Cracks	≤ 0,5 mm

Surface Preparation

Make any necessary structural repairs (e.g. defective concrete, faulty construction joints, cracks greater than 0,5 mm). Concrete surfaces must be saturated with water, clean and free of laitance, dirt, film, paint, coating or other foreign matter. Surfaces must have an open capillary system, this can be done by sandblasting or waterblasting. A CSP-3 per the International Concrete Repair Institute Guidelines and Surface Profile Chips is recommended. There should be no excess water on surfaces before application.

Mixing and Application Instructions

For slurry coat applications, mix Xypex powder with clean water to a creamy consistency, either manually or using a mixer, in the following proportions:

Application Method	Typical Coverage Rate (kg/m^2)	Mix Ratio by Volume
Brush	0,65 - 0,80	5 parts powder to 2 parts water
	1,0	3 parts powder to 1 part water
Spray	0,65 - 0,80	5 parts powder to 3 parts water

Standard Application Coverage	
Minimum coverage per layer	0,65 kg/m^2
Standard conditions	1 x 0,65 – 1,00 kg/m^2
High hydrostatic pressure	1 Concentrate 0,80 kg/m^2 + 1 x Modified x 0,65 – 0,80 kg/m^2
Aggressive chemical exposure	1 Concentrate 0,80 kg/m^2 + 1 x Modified x 0,65 – 0,80 kg/m^2

Do not mix more Xypex material than can be applied in 20 minutes. As the mixture thickens, stir briefly to ensure the mixture remains fluid, but do not add water. Apply Xypex with a semi-stiff nylon bristle brush or specialized spray equipment. The coating must be uniformly applied and should be just under 1,25 mm in thickness. When a second coat (Xypex Concentrate or Xypex Modified) is required, it should be applied after the first coat has reached an initial set but while it is still “green” (less than 24 hours).

Please consult your local Xypex Representative regarding your project’s use of Xypex Modified and for detailed application instructions.

Curing

Generally, a misty fog spray of clean water is used for curing the Xypex treatment. Curing should begin as soon as Xypex has set to the point where it will not be damaged by a fine spray of water. Under normal conditions, it is sufficient to spray Xypex-treated surfaces three times per day for two to three days. In hot or arid climates, spraying may be required more frequently. Wet burlap and some specialty curing blankets are also effective for curing.

During the curing period, the coating must be protected from rainfall, frost, wind, the puddling of water and temperatures below 5ºC for a period of not less than 48 hours after application. If plastic sheeting is used as protection, it must be raised off the Xypex to allow the coating to breathe.

For concrete structures that hold liquids (e.g. reservoirs, swimming pools, tanks, etc.), Xypex should be cured for three days and allowed to set for 12 days (18 days for wastewater exposure or corrosive solutions) before filling the structure with liquid.

Packaging

Xypex Modified is available in 25 kg pails and paper bags.

Storage

Xypex products must be stored dry at a minimum temperature of 7ºC. Shelf life is two years[1] when stored under proper conditions.

[1] The user of this product must check their local health and safety regulations, as cementitious products that contain chromium VI may have a reduced shelf life. For those markets subject to regulations concerning the control of soluble chromium VI, where the limit is set at 2 ppm, this product has a shelf life of 12 months.

Health & Safety

Xypex is alkaline. As a cementitious mixture, Xypex may cause skin and eye irritation. When working, it is therefore necessary to comply with the health and safety regulations. Please refer to the safety data sheet. The disposal of product residues must follow local regulations.

Certification

Xypex Modified is certified as a non-structural repair mortar of the class R1 under EN 1504-3. The certification of the product and regular audits of FPC are carried out by Notified Body 1020 TZUS.

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Xypex Germany GmbH.
Ludwigsluster Chaussee 5
D-19370 Parchim, Germany

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Non-structural Repair, Class R1 & R2
EN 1504-3 • DOP XEU_Mod.01

Adhesive Bond	≥ 0,8 MPa
Total chloride	< 0,05 % by mass

Manufacturer: Xypex Germany GmbH, Ludwigsluster Chaussee 5, D-19370 Parchim, Germany