

## Waterproofing Options for Masonry Block Structures

Block structures are notorious for allowing water through and effective waterproofing is often achieved with a belts and braces approach.

Demden Ltd can offer products for a variety of options.

### **Standard 2 or 3 coat renders/solid plasters to the external face of blockwork.**

In this option Xypex Admix C-1000NF is added to 1 or 2 plaster layers.

In the event of a 2 coat system Xypex Admix can be added to the scratch coat and/or final coat and water cured for a minimum 48 hours. If Xypex Admix is being added to a layer going on top of a previous Xypex Admix dosed layer, the addition of Xycrylic Admix is advisable to introduce a chemical bond between layers.

For a 3 coat system Xypex should be added to the structural and final layers, with the final layer also utilising Xycrylic Admix. Water curing should be performed on all Xypex Admix dosed layers for a minimum 48 hour period.

This approach is economical and utilises Xypex for waterproofing the layer to which it has been dosed, while introducing a self healing ability for fine cracks within that layer. Addition of Xycrylic Admix aids workability and strengthens the layer, in addition to the primary benefit of a strong chemical bond. Higher dose rates of Xycrylic Admix increases the bond but reduces the Xypex crystal growth and the converse is also true.

Renders can be left natural grey or painted over. Paints should be suitable for adherence to a non porous surface for bonding purposes.

### **Xypex Concentrate and Xypex Megamix 1 over blockwork**

After saturating the blocks well with water (the better the saturation the further the initial penetration of Xypex), a coat of Xypex Concentrate is applied to the block face. This needs to be mist water cured 2-3 times per day until the Xypex Megamix 1 coat is applied. Following initial set (minimum 4 hours), and within 24 hours, a coat of Xypex Megamix 1 is applied over the Concentrate coat and trowel finished. Xypex Megamix 1 contains short fibres and is designed as a capping coat over Xypex Concentrate. Xypex Megamix 1 gives a more consistent grey colour and can be finished with a steel trowel. The final coat does not require curing and, as it is mixed with Xycrylic Admix, helps prevent efflorescence.

This option introduces Xypex crystal and self healing ability to the zone of initial water penetration, with the additional benefit of a smooth architectural finish. The surface can be left natural grey or painted.

### **Xypex Render/Wash system**

This system is designed to show the shadowing of the mortar joints whilst still providing a waterproof solution.

A coat of Xypex Concentrate is applied as mentioned above and then within 24 hours a render wash of Xypex Admix and Xycrylic Admix is applied as a thin wash approx. 2mm thick over the Xypex Concentrate. This coat needs to be water cured.

A second render wash (1-2mm) is the applied as the final coat and water cured.

This system gives a specific appearance to the block work. It is designed as a natural grey, steel trowel finish. It is recommended that this system be applied by a plasterer experienced with Xypex products.

### **Tech-Dry Block Emulsion water repellent block system**

The Block Shop can supply water repellent grey masonry blocks incorporating Tech-Dry Block Emulsion. In conjunction with a water repellent mortar additive, this allows for construction of an above ground water repellent block walls. Paints and plasters can be applied later on if desired.

Any of the previous options can be applied to Tech-Dry treated blocks for a belts and braces approach or the Tech-Dry system can be used stand alone. For architectural masonry applications a clear sealer be applied over Tech-Dry treated block walls for maximum effectiveness.

With all new block walls, and in addition to the options above, Demden Ltd recommends that Xypex Admix is also added to the corefill during the initial construction phase. This will ensure that the corefill itself is waterproof. However, Xypex crystals will not migrate from the corefill into surrounding block work and this option should not be considered a stand alone solution.

All the options above are intended to be permanent waterproof systems that do not degrade with UV (with the exception of any clear sealers utilised).

\*Xypex products have been shown to reduce water vapour transmission, however these products should not be considered to be vapour proof barriers.

Further information on Xypex products is available from Demden Ltd.

#### **Disclaimer**

The applicator is wholly responsible for the architectural appearance of any of the above systems and should be consulted in the first instance for any post construction issues. Trials of coatings to confirm agreed textures/appearance should be conducted with the client, architect and applicator prior to project start.

Xypex products rely on the structural integrity of the plasters to which they are added/applied and these layers should be inspected for defects immediately following construction. Applicators need to be aware that they should address any defects during construction to minimize waterproofing/architectural impact.

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