

03930 PATCHING & RESURFACING

Concrete Rehabilitation

Description

XYPEX MEGAMIX I is a thin parge coat for the waterproofing and resurfacing of vertical masonry or concrete surfaces, as a cap coat for Xypex Concentrate, or as an architectural rendering. Megamix I is a unique blend of Portland cement, treated silica sand, fibers and proprietary chemicals. It is mixed with Xycrylic Admix to produce enhanced bond. Megamix I is applied by brush or trowel up to a thickness of 3/8 in. (10 mm). The high performance characteristic of Megamix I are enhanced by Xypex's unique crystalline waterproofing and protection technology.

NOTE: For patching or resurfacing deteriorated concrete, requiring a thicker parge coat, (between 3/8 in. and 2 in. or 10 mm to 50 mm), refer to the product data sheet for Xypex Megamix II.

Recommended for:

- · Waterproof coating for vertical concrete block surfaces and cast-in-place concrete walls
- A secondary or cap coat for Xypex Concentrate applications to porous masonry surfaces
- Lining for swimming pools, tunnels and tanks

Advantages

- · Excellent adhesion and bond to concrete substrates
- · Easy to apply
- · Fiber reinforced
- Reduces surface absorption
- Provides good surface for painting or as a final finished surface
- NSF 61 certified

Packaging

Megamix I is available in 60 lb. (27.2 kg) pails.

Storage

Xypex products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is one year.

Coverage

Required coating thickness will vary depending on project requirements. At the recommended thickness of 1/8 in.

(3.2 mm), one 60 lb. (27.2 kg) pail of Megamix I will cover 47.5 sq. ft. (4.4 m²). Megamix I may be applied as thin as 1/16 in. (1.6 mm) provided it is used as a cap coat over a coat of Xypex Concentrate. For application thickness exceeding 3/8 in. (10 mm), consult with the Technical Services Department of Xypex Chemical Corporation or your local Xypex representative.

Physical Properties

Mixing Liquid Required (2 water:1 part Xycrylic)		
1.4 U.S. gallon / 60 lb. pail 5.4 litre / 27.2 kg pail		
Compressive Strength (ASTM C 109)		
@ 7 days @ 28 days	2420 psi 3610 psi	16.7 MPa 24.9 MPa
Direct Tensile Bond Strength (ACI 503R Appendix A)		
concrete block 24 hr. Concentrate	220 psi 180 psi	1.54 MPa 1.24 MPa
Water Permeability and Absorption CSN 73 2578 "Test for Water-Tightness of Surface Finishes of Building Materials"		
30 min. water absorption (% of untreated concrete block)	86.8% reduction	

NOTE: For bond and absorption tests, Megamix I was applied at 1/16 in. (1.6 mm) thick onto either pressure washed concrete block or 24 hr. old Xypex Concentrate.

Application Procedures

1. SURFACE PREPARATION The concrete surface to be treated with Megamix I must be clean and free from dirt, oil, paint, or other foreign substances that could hinder bond. Structural repairs (i.e. cracks, faulty construction joints, rock pockets, tie holes, spalled concrete, etc.) should be performed prior to the application of the Megamix I coating. Pressure washing of surface may be required to ensure open capillary system to provide "tooth and suction" for the Megamix I coating.

2. WETTING CONCRETE SURFACE The concrete or masonry surface must be thoroughly saturated with clean water to control substrate suction and prevent premature drying out of the Megamix I coating.

Application Procedures

1. **SURFACE PREPARATION** Remove loose, delaminated or unsound concrete by high pressure water blast, chipping, or other means. Complete structural or reinforcing steel corrosion repairs as necessary. Saw cut perimeter of repair area to 3/8 in. (10 mm) depth. Remove dust, micro fractured particles and foreign material from the repair area by pressure washing or other suitable means necessary to clean surface to obtain desired bond. A roughened surface texture such as ICRI CSP 5 or greater is typically required to achieve adequate bond. Maintain surface in saturated surface dry conditions during the application of Megamix II mortar.

2. MIXING PROCEDURES Best results are achieved using a mechanical mortar mixer and paddle with a capacity for low speed continuous blending. For small quantities of material a drill and paddle mixer can be substituted. Mix typically requires 0.91 - 0.94 US gallons of water per 55 lb bag (3.45 - 3.55 litres per 25 kg bag). Use only sufficient clean water to create a medium to stiff mortar consistency. Add approximately 90% of the required amount of water to a mixer and then add the Megamix II powder. Mix briefly and add additional water to achieve the required consistency (do not exceed maximum water without consulting Xypex Technical Services Representative). Mix 3 - 5 minutes to achieve a uniform consistency. Over mixing or delivery delays may result in product stiffening. Do not over water.

3. APPLYING MEGAMIX II Saturate the repair area with clean water and allow the surface to come to a "saturated, surface dry" (SSD) condition. For improved bond, apply scrub coat of Megamix II onto prepared surface. Apply full coat of Megamix II while scrub coat is still wet (generally within 20 minutes). When applying Megamix II by low pressure spray equipment, use sufficient velocity to compact and build the thickness of the mortar. The spray nozzle should have a minimum 0.5 in. (12.5 mm) orifice to prevent clogging. Sprayapply Megamix II, at a right angle to surface, at a distance of 18 - 24 in. (450 - 600 mm). When applying Megamix II with a trowel ensure that the Megamix II is fully consolidated and worked well into the scrub coat and substrate. Complete finishing operations as quickly as possible. Megamix II can be finished to varying surface textures, including a rough finish directly from spraving nozzle, to semi-smooth using a wood or rubber float or smooth using a steel trowel.

NOTE

i. For a recommendation regarding the specific type of equipment required for the mixing and for the spray application of Megamix II, contact the Technical Services Department of Xypex Chemical Corporation.

ii. For enhanced chemical protection and crack healing of the substrate Xypex Concentrate may be applied to broom finished surface of the Xypex Megamix II as soon as the surface will accept the Xypex Concentrate without being disturbed. The Xypex Concentrate must then be mist cured for as long as required to ensure a 3 day wet cure of the Megamix II below it. Gamma Cure alone is not sufficient for curing a Concentrate on Megamix II installation.

iii. Xypex Xycrylic Admix at 2 parts water to 1 part Xycrylic dilution may be used as mix liquid in place of water for Megamix II.

iv. Megamix II should not be mixed and placed at temperatures below 39°F (3°C) or above 86°F (30°C). Protect from rapid evaporation (hot and/or cold and windy conditions).

4. **APPLICATION THICKNESS** The thickness of the Megamix II application will depend on specific job site conditions and requirements. As a general guide, application thickness should be between 3/8 in. and 2 in. (10 mm and 50 mm). Single layer thickness for spray application will depend on equipment and applicator skill, but may be up to 2 in. (50 mm) vertical and 1.5 in. (40 mm) overhead. Roughen or score the surface before applying successive layers and apply immediately following initial set.

NOTE:

i. For any application greater than 2 in. (50 mm) contact the Technical Services Department of Xypex Chemical Corporation or your local Xypex Technical Services Representative.

ii. Megamix II can be extended with clean 3/8" (10 mm) coarse aggregate in specific applications. Use 30 lbs. (14 kg) of aggregate per 55 lb. (25 kg) bag.

5. **CURING** Curing is essential for optimum quality and durability of the repair mortar. Cure Megamix II using moist curing methods. For moist curing, apply continuous source of moisture by spray, or utilize wet burlap and polyethylene sheet or other suitable means for a minimum of 3 days. Containment structures (i.e. reservoirs, tanks, etc.) can be filled with water following 3 days



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