

K A U F M A N

PRODUCT
INFORMATION

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PATCHWELL LA

Description

Patchwell LA is supplied as a ready-to-use blend of dry powders, which requires only the site addition of clean water to produce a flowable/pumpable shrinkage-compensated, micro-silica concrete, suitable for large volume concrete repairs at nominal thickness in excess of 1 ½" (38mm). The material is based on Portland cement, graded aggregates and additives that impart controlled expansion in both the plastic and hardened states while minimizing water demand. The hardened product exhibits excellent thermal-compatibility with concrete and outstanding water resistance properties. The aggregate grading is designed to aid uniform mixing and eliminate segregation under pumping pressures. The low water requirement ensures fast strength gain and long term durability.

Uses

Patchwell LA is ideal for the reinstatement of large, structural sections of steel-reinforced concrete, as well as for many smaller locations where difficulty in access makes hand or trowel-applied mortars impractical. It is suitable for use where chloride and carbon dioxide resistance is required. Patchwell LA is alkaline in nature and will protect properly prepared embedded steel reinforcement. The highly fluid nature of Patchwell LA eliminates the need for compaction and vibration even where access to the repair zone is restricted or where reinforcement is congested.

Use Patchwell LA for reinstatement or repair of spandrel beams, columns, and balcony edges or for partial depth or full depth placements for which liquid tight formwork is required. May be used from 6" down to ½", without the addition of pea-gravel.

Packaging/Yield

55# bag @ 1 ½" thickness
.5 cu. ft. per unit

Physical Properties - @ 75°F

Compressive Strength ASTM C-109-92	1 day	2500
	7 days	6000
	28 days	7500
Flexural Strength ASTM C-78-84	1 day	665
	7 days	1055
	28 days	1265
Tensile Strength ASTM C-190-85	28 days	850

Directions

Surface Preparation Concrete

Saw cut or cut back the extremities of the repair locations to a depth of at least ½" (12mm) to avoid feather edging and to provide a square edge. Break out the complete repair area to a minimum depth of 1 ½" (38mm) up to the sawn edges, across the entire area of the repair or reinstatement.

Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

Where breaking out is not required, roughen the surface and remove any laitance by light scabbing or abrasive blasting.

Oil and Grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test.

Steel

Expose fully to 100% of its circumference any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a SSPC-SP10, Near White Metal Specification condition paying particular attention to the back of exposed steel bars. Abrasive blasting is recommended for this process. If Hand Tool Cleaning, use an SSPC-SP3 specification. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with steam or clean water modified with an approved corrosion inhibitor immediately after abrasive blasting to remove corrosion products from the pits and imperfections within its surface. Reinforcement, which is badly corroded, or missing may require replacement. Refer to the Concrete Reinforcing Steel Institute (CRSI) or the American Welding Society (AWS) for fastening specifications. Maintaining electrical continuity of the reinforcing steel is recommended. The use of SurePoxym EPL is highly recommended as a bonding agent between the steel and new mix.

Mixing

Care should be taken to ensure that Patchwell LA is thoroughly mixed. A forced-action mixer is essential. Mixing in a suitably sized drum using an approved spiral paddle in a slow speed (400/500rpm) heavy-duty drill is acceptable. Free-fall mixers must not be used. Mixing of partial bags should never be attempted. It is essential that machine mixing capacity and the crew size is adequate to enable the placing operation to be carried out continuously. Measure 3 ½ quarts (3.3 liters) of drinking quality water and pour ¾ into the mixer. With the machine in operation, add one full 55 lb (25 kg) bag of Patchwell LA and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes until a smooth consistency is obtained. Note that powder must always be added to water. The quantities mixed may be scaled as required. When the drill and paddle mixing method is used, the complete 3 ½ quarts (3.3 liters) of water should be placed in the mixing drum. With the paddle rotating, add one full 55 lb (25) kg bag of Patchwell LA and mix for 2 to 3 minutes until a smooth even consistency is obtained. If there is any doubt as to whether a homogeneous mix has been achieved, it is recommended that the mixed product be passed through a suitable coarse metal screen prior to placing or pumping to eliminate any unmixed material.

Low temperature mixing

In cold temperatures down to 45°F (7°C), the use of warm water (up to 86°F/30°C) is advisable to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted. The material should not be applied when the substrate and/or air temperature is 45°F (7°C) and falling. At 45°F (7°C) and rising, the application may proceed. Refer to ACI 306R-88, Cold Weather Concreting.

High temperature mixing

At ambient temperature above 95°F (35°C), the material should be stored in the shade and cool water used for mixing. Refer to ACI 305R-89, Hot Weather Concreting.

Application

Formwork

The unrestrained surface area of the repair must be kept to a minimum. The formwork should be rigid and tight to prevent loss of material and have properly sealed faces to ensure that no water is absorbed from the repair material. The formwork should include drainage outlets for presoaking and,

if beneath a soffit, provision for air venting. Provision must also be made for suitable access points to pour or pump the mixed micro-concrete into place. Form design should allow for a minimum of ¾" (19mm) cover to all steel. A suitable form release agent should be used to allow for ease of removal of the forms from the cast material. Refer to ACI 347R-88 Recommended Practice for Concrete Formwork.

Reinforcement Priming

Apply one full coat of SurePoxo HMEPL and allow drying before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.

Substrate Priming

Several hours prior to placing Patchwell LA, the prepared concrete substrates should be saturated by filling the prepared formwork with clean water. Immediately prior to the placement of Patchwell LA, this water should be completely removed and the drainage outlets sealed leaving the substrate-saturated surface dry with no ponded water remaining. In jobsite circumstances where the formwork cannot be filled with water, the prepared concrete substrates must be thoroughly hosed down with clean water to achieve an equal level of saturation as achieved by filling the formwork with water. Again the substrate must be saturated surface dry immediately prior to placement of Patchwell LA. In exceptional circumstances where a substrate/repair barrier is required, the presoaking stage is omitted and SurePoxo HMEPL or SurePoxo Gel EPL should be used.

Precautions

Since emptied containers retain product residues (vapor, liquid, and/or solid), extreme caution should still be exercised in their handling. For industrial use only. **Keep out of reach of children.** Not for internal consumption. Prior to use, consult MSDS and read warning noted on product package for more information.

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