Product Information

Substrate Repair & Patching Materials

Substrate damage that may be structural in nature must be evaluated by a licensed professional architect or engineer. Repair of structural damage is not addressed by this manual and is not the responsibility of Kemper System, Inc.

CEMENTITIOUS PATCHING MATERIALS

The substrate repair and patching materials described below have been used by the trade in the field in conjunction with Kemperol materials, and been found to be acceptable for substrate leveling and patching. The cure times shown are minimum days required, and may vary depending upon temperature and relative humidity. This is not intended to be a comprehensive list; other repair materials of similar composition are likely to provide acceptable results. After placement of the patch or infill materials, most surfaces must be mechanically ground, bartered, sandblasted or scarified to remove any cementitious laitance (the weak surface which occurs during the placement and setting process) and other contaminants.

Repair of concrete substrate is dependent on the type of extent of the deterioration. The following are basic types of repair materials, a combination of which may be required to achieve proper repair.

Bonding Agent/Rebar Coating

Emaco P24 (MBT)

Requires subsequent application of Manufacturer's surfacing or repair mortar.

Armatec 110 EpoCem (Sika)

Requires subsequent application of Manufacturer's surfacing or repair mortar.

Profiling/Surface Repair Mortar

Emaco R300 CI (MBT)

Single-component polymer modified repair mortar for surface repairs of minimum 1/8", maximum 1/4" thickness. Typical 3-7-day curing required prior to Kemperol primer application.

Sikatop 121 PLUS (Sika)

Two-component polymer modified repair mortar for surface repairs of minimum 1/12", maximum 1/6" thickness. Typical 3-7-day curing required prior to Kemperol primer application.

Horizontal/Vertical Repair Mortar

Emaco R310 CI (MBT)

Single-component polymer modified repair mortar for surface repairs of minimum 1/4", maximum 1" (per lift) thickness. Can be extended 3/8" pea gravel for repairs of greater depth. Typical 3-7-day curing required prior to Kemperol primer application.

KEMPER SYSTEM, Inc. • 1182 Teaneck Road, Suite 206, Teaneck, NJ 07666
Phone: 1-800-541-5455 • Fax: 1-201-833-8422 • E-mail: **www.kempersystem.net**

SikaTop 122 PLUS (Sika)

Two-component polymer modified repair mortar for surface repairs of minimum 1/8", maximum 1" (per lift) thickness. Can be extended 3/8" pea gravel, for a minimum 1", maximum 4" (per lift) thickness. Typical 3-7-day curing required prior to Kemperol primer application.

SikaRepair 222 (Sika)

One- or two-component modified repair mortar for surface repairs of minimum 1/4", maximum 1" (per lift) thickness. Can be extended 3/8" pea gravel for repairs of greater depth. Typical 3-7-day curing required prior to Kemperol primer application.

Emaco 10-61 Rapid Mortar

Single-component modified repair mortar for surface repairs of minimum 1/2", maximum 2" (per lift) thickness. Can be extended 3/8" pea gravel for repairs of greater depth. Typical 24 hour curing required prior to Kemperol primer application.

SikaQuick 2500 (Sika)

Single-component polymer modified repair mortar for surface repairs of minimum 1/4", maximum 1" (per lift) thickness. Can be extended 3/8" pea gravel for repairs of greater depth. Typical 4-8 hour curing required prior to Kemperol primer application.

Vertical/Overhead Repair Mortar

Emaco R350 CI (MBT)

Single-component polymer modified repair mortar for surface repairs of minimum 1/4", maximum 1-1/2" (per lift) thickness. Typical 3-7-day curing required prior to Kemperol primer application.

SikaTop 123 PLUS (Sika)

Two-component polymer modified repair mortar for surface repairs of minimum 1/8", maximum 1-1/2" (per lift) thickness. Typical 3-7-day curing required prior to Kemperol primer application.

SikaRepair 223 (Sika)

One- or two-component modified repair mortar for surface repairs of minimum 1/4", maximum 1" (per lift) thickness. Typical 3-7-day curing required prior to Kemperol primer application.

BRICK, STONE, AND TERRA COTTA PATCHING MATERIALS

Repair of brick, stone, and terra cotta substrate is dependent on the type of substrate material, the extent of the deterioration, and whether or not the repair needs to match the appearance of the substrate.

Repair materials indeed for use with concrete substrates are normally not appropriate for use with brick, stone, and terra cotta.

The following are basic types of repair and restoration materials recommended by the listed manufacturers for each substrate type. However, as these are specialty materials, close consultation with the material manufacturers is recommended. The use of associated surface cleaners and bonding agents may be required to achieve satisfactory results.

Limestone/Sandstone Repair Mortar
John M70 (Cathedral Stone Products)
Custom System 45 (Edison Coatings)

Brick/Terra Cotta Repair Mortar
John M100 (Cathedral Stone Products)
Custom System 45 (Edison Coatings)

Marble Repair Mortar
John M120 (Cathedral Stone Products)
Custom System 45 (Edison Coatings)

Granite/Bluestone Repair Mortar
John M160 (Cathedral Stone Products)
Custom System 45 (Edison Coatings)

UNIVERSAL REPAIR MATERIAL/SEALANT
Repair of small cracks, gaps and jints in most substrate materials can be made by using a high-quality single component gun-grade urethane sealant. ***Silicone-based sealants are not acceptable.***

Deep cracks will require the use of a backer rod prior to the application of the urethane sealant material. The sealant must be smoothed out flush with the substrate; tooling is not required.

The intent is to prevent the loss of liquid primer and resin materials, and to achieve a continuous substrate surface that will provide full support of the Kemper membrane system.

Urethane Sealant
Sikaflex-1a (Sika)
Sonneborn NP1 (Sonneborn)
DynaTrol 1-XL (Pecora)

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