Epoxy Crack Repair Guide

GUIDE DESCRIPTION

The procedures outlined in this guide are intended for the repair of non-moving cracks, and the relocation of moving cracks in a controlled manner that prevents unwanted cracking in toppings and overlayments. This guide outlines the procedures for repairing cracks using VERSAPOX 'SR' CLEARSEAL and VERSAPOX CRACK-WELD.

PRODUCT DESCRIPTION

VERSAPOX 'SR' CLEARSEAL is a 100% solids 2-component epoxy normally used for sealing of concrete and decorative substrates; however, the low viscosity, high strength, tenacious adhesion, and cold cure tolerance of the coating make it an excellent product for the repair of smaller cracks.

VERSAPOX CRACK-WELD is a 100% solids 2-component epoxy with excellent low temperature cure profile, strength development, and strong adhesion to damp and dry concrete. CRACK-WELD is formulated with a thixotropic rheology profile, which allows it to be used on larger cracks with a lower tendency for the epoxy to drop out the bottom of the slab where it would be wasted.

COVERAGE RATES* AND PACKAGING

VERSAPOX 'SR' CLEARSEAL	1/32" Crack, 4" Slab	154 linear ft/kit	Sold in 1.5 Gallon Unitized Kit
	1/16" Crack, 4" Slab	77 linear ft/kit	
VERSAPOX CRACK-WELD	1/16" Crack, 4" Slab	80 linear ft/kit	Sold in 1-Gallon Unitized Kit
	1/8" Crack, 4" Slab	40 linear ft/kit	
	1/4" Crack, 4" Slab	19 linear ft/kit	

*assumes ideal volumetric coverage

REPAIR OF CRACKS UP TO 1/16"

Preparation

Locate all cracks to be treated and mark with chalk if necessary prior to proceeding. Using a 1/4 "-3/8" V-Shaped crack chaser, grind open the cracks. Remove all loose debri, dust, contamination, and bond-breaking material by vacuuming, pressure washing, and/or blowing with compressed air.

Crack must be free of standing water and visual moisture before proceeding further.

Mixing

Mix 2 parts by volume VERSAPOX 'SR' CLEARSEAL A-Component with 1 part by volume VERSAPOX 'SR' CLEARSEAL for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm. Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel has been properly incorporated into the mixture. The pot-life of the material is ~30 minutes in small masses at 70°F. Do not mix more material than can be used within the pot-life.

Application

Apply mixture into the crack by pouring from a cup or bakers bag. Keep the epoxy filled to the top as it drains into the crack. If the crack continues to take in the epoxy past a reasonable point based on the crack's volume, stop filling, and allow the material in the crack to gel for 2-4 hours, then make a second pass in the same manner to top-off the crack.

Sprinkle silica sand onto the top of the epoxy while it is still tacky as necessary to produce a bonding surface for toppings such as cementitious overlays.

Clean-Up

Clean up tools and splatter with lacquer thinner. Clean hands and exposed skin with a citrus-based hand cleaner.

Cure Times

VERSAPOX 'SR' CLEARSEAL will cure to a dry to touch state in 4-8 hours, a hardened state within 16-24 hours, and full cure in 5-7 days.

REPAIR OF CRACKS FROM 1/16 " TO 1/4 "

Preparation

Locate all cracks to be treated and mark with chalk if necessary prior to proceeding. Using a 3/8" V-Shaped crack chaser, grind open the cracks. Remove all loose debri, dust, contamination, and bond-breaking material by vacuuming, pressure washing, and/or blowing with compressed air.

Crack must be free of standing water before proceeding. VERSAPOX CRACK-WELD can be applied to visually damp concrete.

Mixing

Mix 3 parts by volume VERSAPOX CRACK-WELD A-Component with 1 part by volume VERSAPOX CRACK-WELD B-Component for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm. Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel has been properly incorporated into the mixture. The pot-life of the material is ~1 hour in small masses at 70°F. Do not mix more material than can be used within the pot-life.

Application

Apply mixture into the crack by pouring from a cup or bakers bag. Keep the material filled to the top as it drains into the crack. If the crack continues to take in the epoxy past a reasonable point based on the crack's volume, stop filling, and allow the material in the crack to gel for 2-4 hours, then make a second pass in the same manner to top-off the crack.

Sprinkle silica sand onto the top of the epoxy while it is still tacky as necessary to produce a bonding surface for topping such as cementitious overlays.

Clean-Up

Clean up tools and splatter with lacquer thinner. Clean hands and exposed skin with a citrus-based hand cleaner.

Cure Times

VERSAPOX CRACK-WELD will cure to a dry to touch state in 4-8 hours, a hardened state within 8-20 hours, and full cure in 5-7 days.

JOINT RELOCATION

To relocate a moving crack or functional joint to another location, repair the crack or joint as outlined above. When creating a new joint within 0-12" of the previous crack or joint, allow the epoxy to cure 16-24 hours so that it can develop sufficient strength to withstand stress along the bond-line.

For new joints greater that 12" from the previous crack or joint, the saw-cut can usually occur before, or within 24 hours of the crack repair provided that no additional stresses such as heavy rolling loads will be placed on the area.

Typically, new joints should have saw-cut depths of ¼ the depth of the slab. The cut must be of sufficient depth such that it becomes the weakest point in the slab.

New joints should be filled with a EPOTHANE JOINT FILLER to protect the joint from damage while allowing for normal movement.

ADDITIONAL CAUTIONS

- Do not force dry
- Coverage rates may vary
- Mask all areas that need protection
- Always wear protective clothing and equipment as required by OSHA and as necessary
- Read Material Safety Data Sheets before commencing work
- Store material at 50-70°F to prevent shortened pot-life due to excessive heat
- These materials are intended for use in substrates and environments >45°F.

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