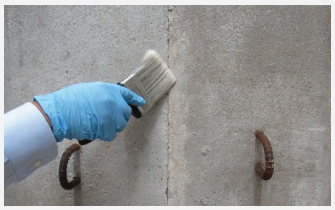
HOW TO GUIDE: EPOXY CRACK SEALING PASTE & CRACK INJECTION

with AV-522 Crack Seaking Paste and AV-502 Injectable Bonding Epoxy Series

AV-502 Injectable Bonding Epoxies' formulas are developed for structural concrete repair by crack injection, gravity feed or patching. It can be used as a liquid binder for sand, aggregate or any other mineral filler to patch or resurface damaged concrete slabs. This material may be used to repair masonry, wood, and other rigid construction materials. AV-502 Series meets or exceeds requirements of ASTM C 881 (Types I, II, IV, & V Grade 3, Class B & C). Available in low (LV), mid-range (MV) and high (HV) viscosities.
AV-522 Crack Sealing Paste is a fast cure, 100% solids, high modulus, non-sag, non-shrink two component epoxy adhesives that bonds to concrete and other surfaces. AV-522 Epoxy Paste meets or exceeds requirements of ASTM C 881 (Types I, II, IV, & V Grade 3, Class B & C.

Step 1: Surface Preparation



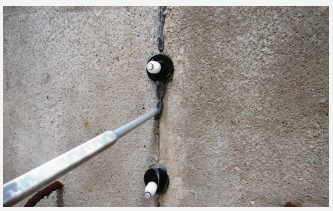
The surface must be clean, dry and sound. To achieve excellent adhesion, the substrate should be free of all loose and foreign material and should be clean. Oils, grease, waxes or other contaminates must be removed prior to application. Surfaces or defects to receive epoxy resin can be blown out using compressed air when available.

Step 2: Mixing AV-522 Crack Sealing Paste

For best performance, the ideal application temperature range of AV-522 is between 70-80°F (21-27°C) but can be extended between 55-90°F (13-32°C). Mix one Part A (resin) to one Part B (hardener) for three minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment as air entrainment leads to decreased bond strength. DO NOT mix more material than can be used within the stated working time and do not allow mixed material to reside in the static mixing head or mixer for more than two minutes or nozzle blockage may result. AV-522 is available in easy to use cartridges or 1-gallon kits.

Remember, you will have less working time at higher temperatures. High temperature will accelerate the setting time. As a general rule, the gel time of the epoxy will be cut in half for each 10°-15° increase in temperature above 75°F, and the gel time will double for each 10°-15° decrease below 75°F. The minimum age of concrete must be seven days and considered fully cured, depending on curing and drying conditions.

Step 3: Applying AV-522 Crack Sealing Paste



Always test a mixed product to insure that the material will harden properly before proceeding. Apply the paste to the injection port and place directly over crack. Be sure the crack is open where ports are placed. To seal cracks for injection grouting, place the mixed material over the crack to be pressure injected using a wooden paint stick or putty knife. Allow sufficient time to cure before pressure injecting.

Step 4: Mixing AV-502 Injectable Bonding Epoxy

For best performance, the ideal application temperature range is between 70-80°F (21-27°C) but can be extended between 55-90°F (13- 32°C). Mix two Parts A (resin) to one Part B (hardener) for three minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment. DO NOT mix more material than can be used within the stated working time. You will have less working time at higher temperatures.

Step 5: Applying AV-502 Injectable Bonding Epoxy

Remove caps from the surface mounted injection ports. Single or dual cartridge resin cartridges and a hand trigger injection gun are the most common method to repair a crack. You can also use a low pressure dual component pump. Once the injection process has begun, the epoxy will travel inside the crack to the next injection port. When epoxy starts to exit through the next injection port, place the cap on that port. Stop injecting and remove hosing from injection port you are currently using, place cap, and move to the next port you initially capped and start the process again until the crack has been fully injected. You can remove the surface mounted ports with a 4 1/2" grinder using various types of grinding wheels. When removing the surface mounted ports, and residual epoxy resin/paste, it is important to wear all protective PPE to avoid injury. Furthermore, when grinding the residual epoxy, take care not to "dig" into the surface of the concrete.