EPOXY INJECTION GUIDE

Product system / Preparation / Port installation

PLAN THE REPAIR

Use this guide to plan epoxy repairs to nonmoving concrete cracks. Determine and address the cause of cracking before repair. Confirm structural repair requirements and site conditions with the project engineer.

THE SPECCHEM SYSTEM

SpecPoxy 500

INJECTION RESIN

Ultra-low-viscosity structural epoxy for penetrating cracks by pressure injection or gravity feed.

SpecPoxy 1000

INJECTION RESIN

Low-viscosity structural epoxy for pressure injection and gravity-feed repairs.

SpecPoxy 3000 FS

PORT ADHESIVE + CAP SEAL

Fast-setting, non-sag epoxy gel for securing ports and sealing the crack surface.

1 Prepare the concrete

Expose sound concrete beside the crack. Remove oil, dirt, laitance, curing compounds and other contaminants. Use compressed oil free air to clear debris from the repair.

2 Set the injection ports

Use SpecPoxy 3000 FS to attach ports over the crack. Space ports approximately 6 to 24 inches apart, adjusted for crack width and member thickness. Keep the entry openings clear.



(1) Apply adhesive to port base.



(1.1) Position port over crack.

3 Seal the crack surface

Apply SpecPoxy 3000 FS along the crack, extending approximately 1-1/2 inches to each side. Let the port adhesive and surface seal cure before injection.



(2) Seal the crack between ports.

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Mixing / Injection / Field checks

MIX FOR THE PRODUCT YOU ARE USING

SpecPoxy 500 and SpecPoxy 1000: Bulk mix ratio is 2 parts A to 1 part B by volume.
SpecPoxy 3000 FS: Bulk mix ratio is equal volumes of A and B. Blend for three minutes with a low-speed drill and suitable paddle. Prepare only usable batches.

For all three products, air, material and substrate must be at least 40°F. Precondition material to 75°F for easier handling. Follow the cartridge instructions when using packaged dispensing systems.

4 Inject in sequence

Inject the selected SpecPoxy 500 or SpecPoxy 1000 resin. Use compatible dispensing equipment. Work upward on vertical cracks; progress from one end on horizontal cracks. Begin at low pressure. As resin appears at the next port, close that port and continue at the current port until it accepts no more resin. If pressure becomes excessive, cap that port and move to the next open injection port.

5 Cure and finish

Allow the injection resin to cure before removing ports and the surface seal. Remove cured epoxy mechanically where required by the specified finish. Do not thin SpecPoxy 1000 with solvent.

FIELD CHECKS

Leak at a port or seal? Stop, repair the seal and allow it to cure before restarting.
Resin does not reach the next port? Check for hidden branches or escape through an unsealed back face.
Unexpectedly low usage? Investigate crack depth and incomplete penetration.

GRAVITY-FEED OPTION

For suitable horizontal cracks where full-depth penetration is not required, feed resin slowly and replenish as it settles. Through-cracks may allow resin to escape below the slab; reassess containment before continuing.

Read current product data sheets, safety data sheets and equipment instructions before starting. Confirm moisture conditions, access, temperature and repair acceptance criteria.

APPLICATION SUPPORT

Confirm project-specific pressure, cure time and return-to-service requirements with SpecChem. This draft is a companion guide; current product instructions govern.

TECHNICAL REFERENCES

SpecPoxy 500 product information; SpecPoxy 1000 TDS and SpecPoxy 3000 FS TDS, revised January 8, 2026.
General workflow reference: Simpson Strong-Tie Crack Injection Guide. Original condensed copy; product details use SpecChem data. Updated November 10, 2026. Photos supplied by client.