



POLYMER CONCRETE MANHOLE

Rehabilitation Insert

Handling & Installation Instructions

ISSUE DATE	September 3, 2026	REVISION	0
APPLIES TO	P3 rehabilitation insert system	DOCUMENT TYPE	Field procedure

Purpose and controlling requirements

These instructions describe the typical handling and field installation sequence for a P3 polymer concrete manhole rehabilitation insert. They supplement the approved project drawings, specifications, submittals, safety plan, and current product instructions. Those project documents govern whenever they are more restrictive.

AUTHORITY Do not deviate from the approved arrangement or these instructions without written approval from P3 Polymers and the project authority responsible for the work.

Before mobilization

CHECK	REQUIREMENT
☐	Confirm that the existing structure has been accepted as a suitable host for the insert.
☐	Verify field dimensions, structure depth, pipe locations, bench and channel geometry, access opening, and finish elevation against the approved insert drawing.
☐	Establish the bypass or flow-control plan and the authorized return-to-service criteria.
☐	Confirm confined-space, excavation, traffic-control, fall-protection, lifting, and site-safety requirements.
☐	Review component weights, lift points, rigging, crane reach, lowering path, and section setting order.
☐	Confirm the specified annular-fill material, required volume, placement method, and access for filling.
☐	Verify that all insert sections, top component, WDP Grout, fiberglass strip, fiberglass shims, and project-specific accessories are present and undamaged.



System overview

The insert creates a new polymer concrete interior wall inside the retained manhole. The field installation must close four critical interfaces: the section joints, the bench-and-invert transition, the annular space, and the top connection.

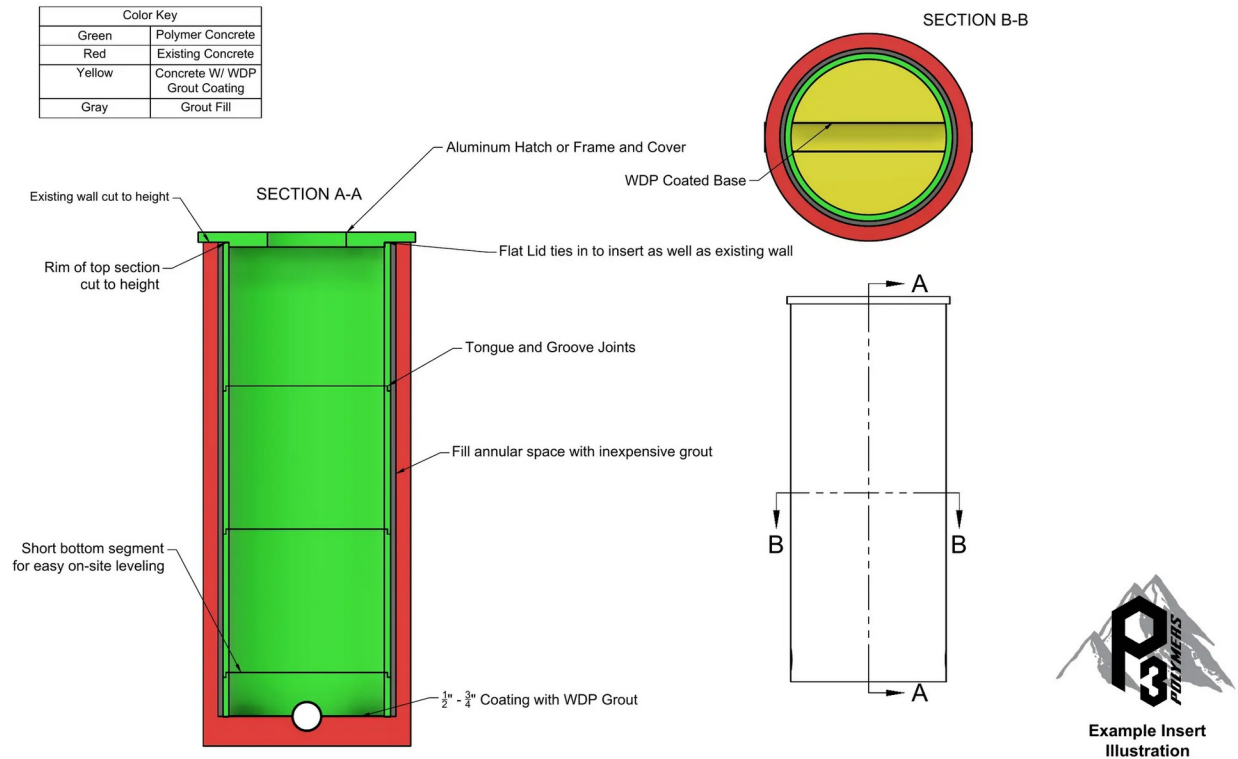


FIGURE 1 | EXAMPLE INSERT ARRANGEMENT - NOT A PROJECT SHOP DRAWING

Critical interfaces

INTERFACE	INSTALLATION INTENT
Insert joints	WDP Grout fully covers the joining surfaces so gaps do not become infiltration paths.
Bench and invert	The repaired flow channel and bench connect continuously to the base insert; the WDP system extends approximately 4 inches up the base-insert wall.
Annular space	The approved fill is placed without shifting, floating, or distorting the insert stack.
Top connection	The top component ties the insert to the retained structure and establishes the required access and finish elevation.



Installation sequence

Maintain the approved setting order and protect the cleaned and prepared surfaces throughout installation. Stop work when a condition differs materially from the approved project information.

1. Take the existing manhole out of service and open the structure

- Implement the approved bypass or flow-control plan before opening the manhole.
- Remove the existing cone or flat lid as shown in the project documents.
- Install the required fall-protection, traffic-control, excavation, and confined-space barriers.
- Confirm that the actual opening, retained-wall height, and lowering path agree with the approved installation plan.

HOLD POINT 1 Do not begin surface preparation until the structure is safely isolated and the field geometry is confirmed.

2. Clean and prepare the retained structure

- High-pressure wash the existing wall, bench, invert, and pipe interfaces.
- Remove wastewater buildup, laitance, debris, and all loose or unsound material.
- Give particular attention to the bench and invert, where the WDP Grout must bond to the prepared surface.
- Remove standing debris and verify that the prepared surfaces and work area are suitable for the next operation.

HOLD POINT 2 The bench, invert, and intended bonding surfaces must be clean, sound, and accessible. Stop and contact P3 if deterioration or geometry differs materially from the approved basis.

3. Seal the pipe invert and prepare the base seat

- Place the supplied fiberglass strip over the pipe invert as shown in the approved arrangement.
- Seal the fiberglass with WDP Grout to prevent annular-fill material from entering the flow channel.
- Apply a continuous bed of WDP Grout to the bottom of the short first insert section and to the prepared bench where the section will bear.
- Keep WDP Grout out of the active flow path except where it forms the approved bench-and-invert repair.

HOLD POINT 3 Confirm that the pipe invert is sealed and that the base seat has continuous bearing material before lowering the first section.



4. Set, center, and level the first insert section

- Lower the short base section using the approved lift points, rated rigging, and planned setting path.
- Center the section to maintain the required annular space around the perimeter.
- Level and stabilize the section with the supplied fiberglass shims.
- Verify orientation to the pipe and bench before the WDP Grout bed sets.

HOLD POINT 4 Confirm level, orientation, bearing, and even annular spacing. The first section establishes the alignment of the full insert stack.

5. Stack and bond the remaining insert risers

- Clean each joining surface before the next section is set.
- Apply WDP Grout continuously to the joint interface in the quantity needed to close the joint.
- Lower and seat each riser without impacting the section below or disturbing the base.
- Remove or tool displaced material as needed while maintaining complete joint coverage.
- Check alignment, plumbness, orientation, and annular spacing after each section.

HOLD POINT 5 Do not leave gaps or uncovered spaces at any insert joint; they can become infiltration paths.

6. Rebuild the bench and invert

- Repair and coat the prepared bench and invert with WDP Grout to restore the intended flow channel and bench profile.
- Carry the WDP system approximately 4 inches up the wall of the base insert to create a continuous transition.
- Finish the channel smooth and free of ridges, pockets, or obstructions that could collect debris.
- Confirm that the repaired bench drains toward the channel and that the flow path remains open.

HOLD POINT 6 Inspect the complete bench, invert, wall transition, and insert joints before placing annular fill. These interfaces will not be readily accessible afterward.



7. Fill the annular space and complete the top

- Place the annular-fill material specified in the project documents. Flowable grout is the typical material.
- Use a placement sequence and rate that do not float, shift, distort, or overload the insert.
- Monitor alignment and top elevation during fill placement.
- Install the approved flat lid or top component so it ties into the insert and retained structure as detailed.
- Backfill and restore grade in accordance with the project documents after the insert and top connection are accepted.

FINAL HOLD POINT Do not backfill or return the manhole to service until the required inspections, cure conditions, and project-specific acceptance criteria are satisfied.

Final inspection checklist

CHECK	REQUIREMENT
☐	Insert stack is aligned, stable, and at the required orientation and finish elevation.
☐	All insert joints are fully bonded with no visible gaps or unfilled segments.
☐	Bench and invert are sound, smooth, open, and shaped for continuous flow.
☐	WDP Grout forms a continuous transition from the bench and invert approximately 4 inches up the base-insert wall.
☐	Annular fill is complete to the required elevation and the insert did not move during placement.
☐	Top component is seated, connected, and coordinated with the retained structure, access frame or hatch, and final grade.
☐	Work area is clean; debris, temporary seals, and installation materials have been removed from the flow path.
☐	Required project inspections and documentation are complete before return to service.

Stop-work conditions

- Actual dimensions, deterioration, pipe geometry, groundwater, or access conditions differ materially from the approved project information.
- An insert component is damaged, will not seat, or cannot be aligned without modification.
- The base cannot be leveled and continuously supported, or annular spacing cannot be maintained.
- A joint, bench transition, or pipe-invert seal cannot be completed continuously.
- Annular fill placement causes movement, flotation, distortion, leakage into the flow channel, or another uncontrolled condition.

FIELD SUPPORT Contact P3 Polymers before modifying an insert component or departing from the approved installation procedure.