



UNITED POINT REPAIR

INSTALLATION GUIDE

Please read this document completely before beginning repair.



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I Repair Package Contents

- 1 Resin and Hardener
- 2 Spatula(s)
- 3 Packer/Carrier Protective Covering (2)
- 4 Cable Ties and/or Wire Ties
- 5 Plastic Working Mat
- 6 Gloves
- 7 Fiberglass Mat
- 8 Tape

I Equipment and Tools

- 1 Point Repair Packer/Carrier
- 2 Flexible Adapter
- 3 Regulator
- 4 Push Rods
- 5 Pull Cable
- 6 Air Compressor
- 7 Inspection Camera
- 8 Measuring Tape
- 9 Wire Cutters
- 10 Pipe Cleaning Equipment





Installation Instructions 3" Through 12" Diameter

- 1. INSPECT THE PIPE AND REPAIR AREA.** Using a CCTV camera, inspect the area leading up to and at the repair site.
- 2. CLEAN AND REMOVE ALL DEBRIS FROM THE PIPE.** All sharp edges or objects should be removed to avoid damage to the packer/carrier.
- 3. VISUALLY INSPECT THE PIPE A SECOND TIME TO VERIFY IT IS READY TO PROCEED WITH THE REPAIR.** As you are doing this, measure to determine the location of the repair using your inspection camera. Once the head of the camera is in the center of the area in need of repair, mark the camera cable with a piece of tape at the opening of the pipe where the camera was inserted.
- 4. TEST SAFETY REGULATOR.** Connect the supplied air safety regulator equipped with a 45 psi blow-off valve. This ensures proper air flow through the regulator, push rods/air hose to inflate the packer/carrier.
- 5. INFLATE THE PACKER/CARRIER IN A TEST PIPE THE SAME DIAMETER AS THE REPAIR TO BE COMPLETED.** Note the minimum psi required to inflate the packer/carrier to the dimensions needed for the repair. Due to the nature of the packer/carrier, the psi may fluctuate based on age, temperature, and condition. Maintain the inflation for five minutes, check all connections for possible leaks or restricted air flow, then deflate using your regulator. This test is required prior to each use.
- 6. ASSEMBLE THE FLEXIBLE ADAPTER AND PUSH RODS TO THE LENGTH NEEDED FOR THE REPAIR.** Tape each joint before and after the connection collars to prevent potential disconnection and for gliding across offset or open joints during installation. At this point, mark the push rods at the correct length for the repair determined during Step 3.



- 7. ENSURE THE REPAIR CAN BE ACCESSED BY PERFORMING A TEST RUN.** Cover the packer/carrier with one of the two protective covering pieces provided with the point repair. Secure with tape at each end. Attach push rods and pull cable. Push the packer/carrier to the location of the repair. At this time, do not inflate. Pull the packer/carrier back out of the pipe, remove the protective covering and discard.



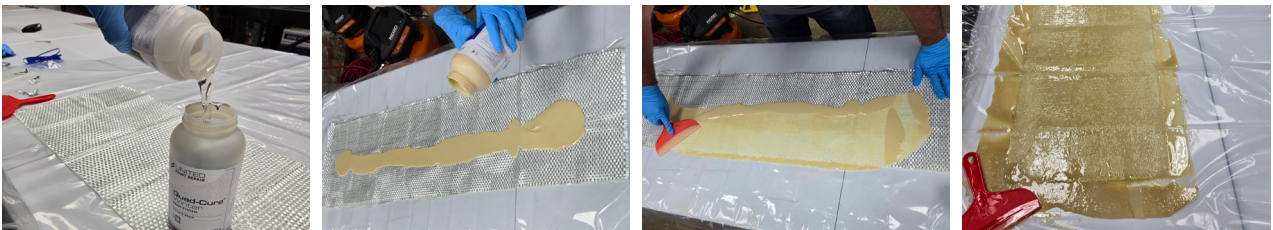
8. COVER THE PACKER/CARRIER WITH THE SECOND PROTECTIVE COVER. Fold over additional plastic in an “S” formation, and tape in place. It is important to ensure there is enough contact area for the tape to adhere to the packer/carrier without restricting the inflation. To avoid air buildup during the repair, two small slits should be cut into the covering at both ends. Put on two pairs of gloves, leaving the outer glove shorter on the wrist for easy removal later.



9. PREPARE YOUR WORK SURFACE ON A FLAT AREA. Secure it in place, lay out all repair materials, and ensure you have any necessary tools within easy reach. Uncover the fiberglass mat and lay it out on the work surface with the woven side up.



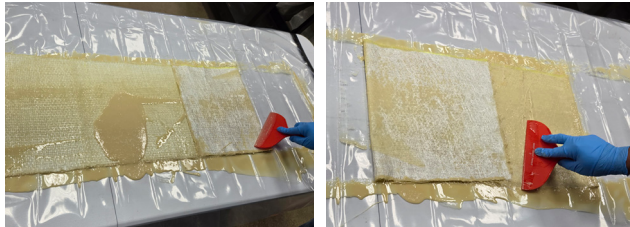
10. MIX RESIN AND WET OUT. First, put on both pairs of gloves, leaving the outer glove shorter on the wrist for easy removal later. Mix part A and part B and shake thoroughly for a minimum of 60 seconds. Write the mixing time on the box. This signifies the start of your working time/pot life and curing time. Pour just over half the resin mixture onto the fiberglass mat. With the woven (shiny) side up, use spatula(s) provided to evenly spread the resin and saturate the fiberglass.





11. PICK UP ONE SIDE OF THE SATURATED FIBERGLASS MAT AND FOLD IT IN TO THE CENTER.

Use some of the remaining resin to saturate that folded section. Once that is saturated, fold the other side to the middle and overlap by 1-inch. Use a little more resin if needed to fully saturate this section.



12. FLIP THE MAT OVER, TO WET OUT OTHER SIDE. Grab the corners away from you, carefully lifting up to flip the mat over. You should now see the chopped strand side. Use all of the remaining resin to totally saturate the entire fiberglass mat, visually assuring there are no dry/white spot. Press firmly with the spreading spatula along the folded edges and discard onto the plastic. Fold both sides of the plastic to within 2-inches of the fiberglass.



13. CENTER THE PACKER/CARRIER ON THE FIBERGLASS. Roll the fiberglass mat tightly onto the packer/ carrier and secure with provided **cable ties or *blue wire ties.

- a. **Cable ties should be used for repairs using a flow through packer/carrier.
- b. *Blue wire ties should be used for 3” to 6” repairs using a non-flow through packer/carrier.
- c. Position ties around the packer/carrier’s nose, the back end and then in the center. Cut off the excess tails.





14. ATTACH THE FLEXIBLE ADAPTER, PUSH RODS, AND PULL CABLE. Connect the flexible adapter to the push rod and attach the safety pull cable. Tape over the connection and where the pull cable is attached (helps eliminate getting caught in an open or offset joint). Position the packer/carrier at the repair location. Using the air regulator, slowly inflate the packer/carrier. The packer/carrier should be completely packed out at the predetermined psi from step five.



15. LEAVE THE PACKER/CARRIER IN PLACE FOR THE TIME DETERMINED ON THE CURING CHART. Deflate the packer/carrier and remove by pushing forward, then pulling back on attached pull cable. If the packer/carrier does not remove freely, re-inflate and let sit for another 15 minutes. It is safe to release the packer/carrier after the resin has cured enough to be tack-free.

16. INSPECT THE REPAIR WITH A SEWER CAMERA. Always confirm the repair was completed successfully.

17. CLEAN-UP. All United Point Repair waste can be regularly disposed of. Always follow owner's guidelines, procedures and protocols.





United Point Repair Silicate Resin Curing Guidelines

QUAD-CURE® SUMMER

AMBIENT TEMP.	WORKING MINUTES	CURE MINUTES
55°F	32 - 35	210 - 240
64°F	32 - 35	180 - 240
73°F	30 - 32	180 - 210
82°F	20 - 23	180 - 210
91°F	14 - 16	150 - 210

QUAD-CURE® WINTER

AMBIENT TEMP.	WORKING MINUTES	CURE MINUTES
33°F	20 - 22	100 - 120
55°F	18 - 20	90 - 110
67°F	16 - 19	75 - 100
73°F	15 - 17	60 - 70

QUAD-CURE® TURBO

AMBIENT TEMP.	WORKING MINUTES	CURE MINUTES
40°F	9 - 10	55 - 60
50°F	8 - 9	45 - 50
59°F	7 - 8	35 - 40
68°F	6 - 7	25 - 30

WORK TIME: Amount of time installer has to install a repair before resin starts to set.

CURE TIME: Amount of time it takes for the resin to cure once part A & B have been mixed together.

NOTE: Resin cure time will vary depending on environmental factors such as Temperature, Humidity, Hydrostatic Pressure and Thermal Wicking due to Cold Water Infiltration.





Scan for Safety Data Sheets and Technical Data Sheets

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