LOCTITE®

CSNRI

TridentWrap

Riser Repair & Reinforcement Kit

TridentWrap Riser Repair and Reinforcement Kits were designed to address the need for simple, instant, tamper-proof repair on non-leaking natural gas piping exhibiting ≤80% wall loss. TridentWrap allows operators to restore corroded piping to its original integrity and prevent further corrosion without shutdown or pipe replacement. To simplify installation, TridentWrap is prepackaged in diameter-specific kits.

KIT CONTENTS

- Step-by-Step Instructions
- Sanding Cloth
- Solvent Cleaning Wipe
- Protective Gloves
- Trident Putty*
- Natural Fiber Brush
- PPR-220 Epoxy
- TridentWrap Outer Wrap
- Compression Film

APPLICATIONS

- Corrosion repair on natural gas piping
- Atmospheric corrosion
- Riser reinforcement
- New or old riser assemblies
- Corrosion protection
- Coating repair
- Integrity management
- Use above- or below-ground
- Air to soil interface

BENEFITS

- Ready to use
- Conforms to irregular shapes
- Saves time
- Simple application
- Prevents future external corrosion
- No pipe replacement
- No shutdown or relights
- No special tools to install
- No hot work
- No contractor required
- No environmental hazards
- Quick and easy installation

PROPERTIES

- VOCs: None
- Service Temp: -50 to 250°F (-46 to 121°C)
- Ambient Application Temp: 32 to 150°F (0 to 65°C)

PROCEDURES TO BE TAKEN IN HANDLING AND STORAGE

Store TridentWrap in a cool, shaded area at 72°F (23°C). Do not expose to temperatures above 110°F (44°C) or below 40°F (5°C). Care must be taken when handling TridentWrap hermetically sealed foil pouch to prevent puncturing or scuffing. If the protective foil pouch is punctured, the TridentWrap will be exposed to atmospheric moisture which will cause it to cure within the foil pouch.

PRECAUTIONS

TridentWrap and PPR-220 resin will adhere to skin and clothing and may cause skin irritation. Protective gloves should be worn while handling. Avoid contact with unprotected areas of skin and eyes. Swabbing lightly with alcohol or acetone will help remove resin from skin (prior to set). If eyes are exposed to the resin, flush eyes with water 15 minutes and then contact physician. Consult SDS for specific precautions.

SDS available at **www.mysds.henkel.com**

Included	Item#	Description
○	TWR001	Riser repair kit 1" OD x 12" (30.5cm)
○	TWR002	Riser repair kit 2" OD x 12" (30.5cm)
○	TWR004	Riser repair kit 4" OD x 12" (30.5cm)
○	TWR006	Riser repair kit 6" OD x 12" (30.5cm)
○	TWR008	Riser repair kit 8" OD x 12" (30.5cm)
○	TWR001P	Riser Repair Kit 1"OD x 12" (30.5cm) w/Putty LA
○	TWR00V	Riser w/Valve Repair Kit 1"OD x 10" (25.4cm) w/Putty CA
○	TWR002V	Riser w/Valve Repair Kit 2"OD x 10" (25.4cm) w/Putty CA

1. Jobsite Readiness

a. Read all instructions before beginning.
b. Check expiration date. Expired product should not be used.
c. Use the correct size kit for the job. If you do no have the appropriate size kit, go up one size or use multiple kits.

2. Surface Preparation

a. Locate area of corrosion. Measure defect. If defect exceeds 8" in length, a 2nd kit will be required. Mark area 1" (25.4mm) above and below repair area to ensure proper application of composite. If the total pipe surface area to be repaired is longer than 12" (30.5cm), a 2nd kit will be required.
b. Mark a 14" length for surface preparation, centered on defect. If corrosion is at the air to soil interface, digging may be required. Proper repair of the riser piping requires a minimum of 1" (25.4mm) of good, non-corroded pipe above and below the pipe surface to be repaired.
c. Remove pipe coating, loose rust, paint and other foreign matter using a wire brush, or included sanding cloth. Remove oils, greases, soaps or foreign materials from pipe surface using the included solvent cleaning wipe.
d. If compliance to ASME PCC-2, DOT, ISO 24817, and/or CSA Z662 standards for composite repairs is desired, prepare surface in accordance with SSPC SP11.

3. TridentPutty (Step 3 applies only if using TWR001P, TWR00V or TWR002V kits with putty, otherwise proceed to Step 4)

a. Put on gloves, remove TridentPutty from packaging, knead until uniform in color. Max mixing time: 3 minutes. Min mixing temp: 50°F (10°C). Press mixed TridentPutty into defect to restore pipe geometry.

4. PPR-220 Epoxy Primer

a. Remove the plastic separator then mix/knead epoxy inside of the pouch until no individual color streaks remain. Put on supplied gloves.
b. Uniformly apply epoxy to the entire circumference of the pipe using supplied natural fiber brush. Begin epoxy application at the bottom of the marked repair area and work upward to the top of the marked area with even, consistent 10-30mil coverage.
c. Epoxy bipacks are supplied in only 2 sizes, therefore some kits include multiple bipacks while others may include more epoxy than needed based on coverage requirements and bipack size(s). Simply ensure 10-30 mils are applied to the entire repair section around the entire circumference and that no bare spots remain.

5. TridentWrap Outer Wrap: Water is needed to activate the TridentWrap Outer Wrap.
Ambient temps effect cure time. Tips to consider that can help oset extreme ambient temps: Hot outside? Use cold water to slow the curing process. Cold outside? Use warm water to speed the curing process.

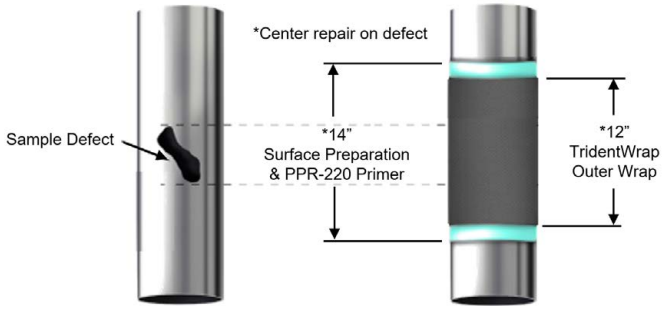
a. Put on clean gloves. Open foil pouch, pour water into pouch submerging the TridentWrap for approximately 10 seconds.
b. Start wrapping 1" (25.4mm) inside the epoxy, leaving 1" of epoxy exposed; for vertical applications start the wrap at the bottom of riser and work upwards. The first 2 wraps will be applied using 100% overlap, providing 2 layers. Continue wrapping using a 50% overlap pattern until reaching 1" (25.4mm) inside the epoxy, where you will again use a 100% overlap pattern before transitioning back using a 50% overlap. Continue this process, using 100% of the TridentWrap supplied. NOTE: Each pass equals 2 layers using 50% overlap; apply 4 passes to ensure a minimum of 8 layers of coverage over the entire repair area.

6. Compression Film: CompFilm should applied & perforated immediately following the TridentWrap Outer Wrap.

a. Apply at least 2 passes over entire repair using 50% overlap to achieve at least 4 layers, wrapping in same direction as previous wrap. You will not need to use entire roll.
b. Immediately perforate all layers of CompFilm using perf tool or wire brush. Bubbles occur as the outer wrap cures. This is safe & important to ensure the outer wrap cures properly.
c. Remove CompFilm after TridentWrap Outer Wrap sets enough that it no longer sticks to the CompFilm.

7. Topcoat

a. Application of UV stable coating is recommended once TridentWrap Outer Wrap has reached its initial cure, approximately 30 mins @ 75°F (24°C). Backfill and return to service.



WARRANTY CSNRI routinely implements product improvements. Please contact your local distributor or office for the most current product specifications. CSNRI warrants the quality of this product when used according to directions.

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