

# TridentSeal®

## Live Leak Repair Kit for Natural Gas Piping

Supports the Elimination of Fugitive Emissions

Designed to address the need for simple, instant, tamper-proof, live leak repair on natural gas piping. TridentSeal permanently seals active natural gas leaks  $\leq 125$  psi (8.6 bar) without interruption to service.

TridentSeal is easy to install and offers a permanent repair that is guaranteed to perform upon passing a leak test. More than 200,000 repairs over the last two decades without a reported failure upon proper installation.

Each kit repairs one leaking, threaded fitting or pinhole.



### Kit Contents

- Step-by-step instructions
- Sanding cloth
- Solvent cleaning wipe
- Protective gloves
- TridentSeal putty
- Pressure sealing tape
- TridentSeal Outer Wrap
- Compression film

### Benefits

- No customer interruptions
- No reights
- Instant, permanent repair

### Properties

- VOCs: None
- Service Temp: -50 to 250°F (-46 to 121°C)
- Ambient Application Temp: 15 to 150°F (-9 to 65°C)
- Tensile Strength (glass): 44,000 psi (303.4 MPa)
- Lap Shear (putty): 900 psi (62.05 bar)
- Pressure Limit Once Cured: 250psi (17.2 bar)

### Typical Applications

- Live natural gas leak repair on:
  - Threaded fittings
  - Pinholes up to 1/8" diameter
- Above- or below-grade natural gas mains, services and meter-sets

SCAN QR CODE  
FOR SDS,  
INSTALLATION  
VIDEOS, AND  
MORE



Item#	Description
<input type="checkbox"/> TS2580	< 1" OD Kit (25.4mm)
<input type="checkbox"/> TS3104	< 2" OD Kit (50.8mm)
<input type="checkbox"/> TS4173	< 4" OD Kit (101.6mm)
<input type="checkbox"/> TS4335	< 6" OD Kit (152.4mm)

**Training requirements and frequency are at the discretion of the owner/utility.**

CSNRI offers a variety of training aids and resources.

**Installation steps and techniques may be learned by:**

- Reading the product insert
- Watching an online video tutorial: Threaded Fitting, Pinhole
- Scheduling instructor led training
- Practical and written exams available upon request, if required by company procedures



### Troubleshooting Tips

#### Why did my first attempt fail the leak check?

If you let time lapse between installing the putty & pressure tape, the putty likely set-up before pressure tape could force it into the defect to seal the leak.

If you didn't a), b), and c), you didn't gain enough tension to force the putty into the defect to seal the leak.

a) stretch the pressure tape to its max tension and

b) wrap layer-over-layer using 100% overlap and

c) apply the entire roll

Remember, each layer of pressure tape applies more force, eventually overcoming the pressure of the leak.

**For more details, scan QR Code above for link to training videos.**

#### Storage and Handling Instructions | SDS available at [cs-nri.com/sds](https://cs-nri.com/sds)

Ideally, store in a cool, dry, shaded area at 72°F (23°C). Do not store products at temperatures above 110°F (44°C) or below 15°F (-9°C) for prolonged periods. Temperatures effect cure times. Many components play a role including pipe, ambient, storage conditions, & the water temperature used to activate resin.

#### Tips to help offset:

**Cold weather** - keep products in a heated truck until ready to install.

**Hot weather** - keep products in air-conditioned truck or cooler until ready to install.

Care must be taken when handling TridentSeal Outer Wrap's hermetically sealed foil pouch to prevent puncturing or scuffing. If the protective foil pouch is punctured, the TridentSeal Outer Wrap will be exposed to atmospheric moisture which will cause it to cure within the foil pouch. Patent#: 7,513,275

#### Precautions

The resin used in TridentSeal Outer Wrap and Putty will adhere to clothing and skin and may cause irritation. Protective gloves should be worn while handling. Care should be exercised to 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 for 15 minutes and then contact physician.

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**Recommended tools not included in kit:** water, clean rags, wire brush, electrical tape, leak detection fluid, and pre-approved coating.



### 1. Jobsite Readiness

- a. Read all instructions before beginning.
- b. Check expiration date. Expired product should not be used.
- c. Stage materials in order of use because the repair moves quickly once started:
  - I. Leak detection fluid (or your company's approved leak detection method) and clean rag
  - II. Wire brush, sanding cloth, solvent cleaning wipe
  - III. Trident Putty: Remove sticker from 1 end, lift edge of plastic wrapper, but leave in place so it can be easily unpackaged during Step 3
  - IV. Pressure tape: Unroll first 6" (15cm) and remove backings. Set aside until Step 4
  - V. Electrical tape
  - VI. Leak detection fluid and clean rag
  - VII. TridentSeal Outer Wrap and clean water: Use care when handling protective foil pouch. If punctured, the roll will cure within the pouch
  - VIII. Compression film and wire brush
  - IX. Pre-approved coating

- d. Use the correct size kit for the job. If you do not have the appropriate size kit, go up one size or use multiple kits together.
- e. If you are performing a repair upstream of a service regulator, ensure the line pressure is less than 125 psi (8.6 bar) before beginning repair and until the outer wrap has reached its initial cure, approximately 30 mins @ 75°F (24°C)



**2. Surface Preparation** is critical to the success of the repair. It ensures the composite bonds to the pipe surface, locking the repair in place.

- a. Locate origin of leak following your company's standard leak detection procedures.
- b. Roughen pipe surface using wire brush and sanding cloth to remove rust, dirt or loose scale.
- c. Remove oils, greases, soaps or foreign materials from pipe surface using solvent cleaning wipe.



### 3. TridentSeal Putty

- a. Put on gloves, remove ½ the putty stick from packaging, knead putty until uniform dark green. Max mix time: 3 min. Min mix temp: 50°F (10°C). Keep remainder in case rewrap is required. **COMPLETE #3b OR #3c DEPENDING ON APPLICATION. THEN PROCEED TO #4.**
- b. **THREADED FITTING:** Mold mixed putty into rope whose diameter is ½ to ¾ height of female fitting, not to exceed OD of the fitting shoulder. Place putty rope 360° around circumference of joint without overlapping ends. Press firmly in place, without displacing putty.

- c. **PINHOLE:** Place ball of mixed putty large enough to fill pinhole, along leading edge to allow pressure sealing tape to compress putty into void.



### 4. Pressure Sealing Tape

Install immediately following putty to ensure putty is still pliable enough that it can be forced into the defect.

- a. Remove gloves. Affix pressure tape to pipe very close to putty using its adhesive backing.
- b. Working in a clockwise direction, tightly wrap pressure sealing tape twice around pipe. Once anchored, shift pressure tape over putty trapping putty in place. Apply remainder of roll at full tension with 100% overlap, forcing putty into defect. **DO NOT CHASE THE LEAK** - each overwrap provides additional pressure to seal leak. Remove adhesive backing from roll's end, loosen tension, secure to pipe.

**Trainer's Tip:** Electrical tape can be used to secure the pressure tape if adhesive becomes contaminated.



### 5. STOP! Confirm Leak is Sealed

- a. Test repair following your leak detection procedures to ensure the gas leakage is sealed and contained. Allow enough time for the leak detection fluid to work, if still leaking it may take a moment for the leak to propagate.
- b. Leak is sealed when no bubbles are detected. Once confirmed leak is sealed, put on gloves and proceed to Step 6.
- c. If leak persists, quickly remove pressure tape and putty then repeat beginning with Step 2. Electrical tape can help re-affix pressure tape to the pipe. Use the extra ½ stick of putty reserved in Step 3a.



### 6. TridentSeal Outer Wrap: Water is needed to activate the TridentSeal Outer Wrap.

Ambient temps effect cure time. Tips to consider that can help offset extreme ambient temps:

Hot outside? Use cold water to slow the curing process. Cold outside? Use warm water to speed the curing process.

- a. Open foil pouch, pour water into pouch submerging the TridentSeal for approximately 10 sec.
- b. 8 layers are required and must extend 2" (5cm) on either side of the pressure tape, covering the entire repair site. To achieve 8-layers, apply 4 passes using a 50% overlap in the same direction as you applied the pressure tape.
- c. Occasionally twist roll as it is applied to help it conform tightly to the pipe around the pressure tape. Remove gloves.



### 7. Compression Film: CompFilm should applied and perforated immediately following the TridentSeal Outer Wrap.

- a. Apply at least 2 passes over entire repair using 50% overlap to achieve at least 4 layers. Wrap in same direction as previous wraps. Entire roll is not needed.
- b. Immediately perforate all layers of CompFilm using perf tool or wire brush. Bubbles occur at this step as part of outer wrap's curing process. This is safe and important to ensure outer wrap cures with no voids between layers. Bubbles at this stage do not indicate natural gas leakage.
- c. Remove CompFilm after TridentSeal Outer Wrap sets enough that it no longer sticks to the CompFilm.

### 8. Pre-Approved Coating

Application of UV stable coating is recommended once the TridentSeal Outer Wrap has reached its initial cure, approx. 30 mins @ 75°F (24°C).