

# TINKER & RASOR



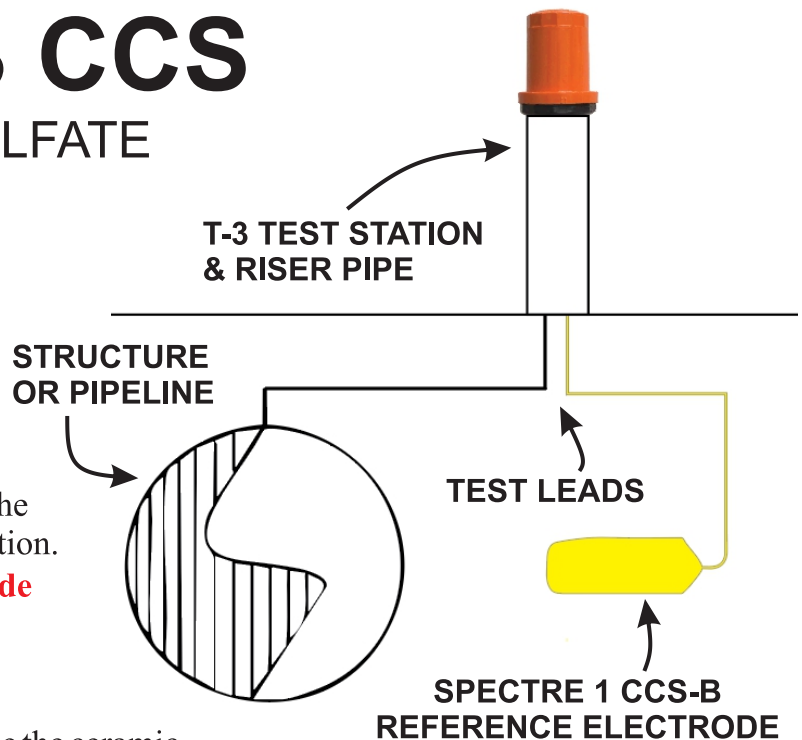
## SPECTRE REFERENCE ELECTRODE INSTALL INSTRUCTIONS



### SPECTRE 1B CCS

COPPER-COPPER SULFATE  
(Cu-CuSO<sub>4</sub>)

**THIS REFERENCE ELECTRODE  
HAS A 6 MONTH SHELF LIFE  
FROM MANUFACTURING DATE**



#### 1. Unpacking the Electrode

- Remove the plastic shipping bag from the reference electrode just prior to installation.
- **Do not pre-soak the reference electrode before installation.**

#### 2. Temperature Handling

- **Do not allow the electrode to freeze before installation.** Freezing may cause the ceramic to crack due to moisture expansion.
- Once installed below the frost line, the electrode will function as intended.
- If the electrode freezes after installation, it should resume normal operation after thawing.

#### 3. Electrode Placement

- Install the Spectre reference electrode **below the normal frost line** to ensure consistent year-round performance. Voltage readings can be difficult to obtain in frozen soil due to increased resistivity.
- Install the electrode in a trench or hole, **adjacent and perpendicular** to pipe even with or below the spring line of the pipe or structure—**within 24"** of the structure.

#### 5. Moisture & Backfill

- After reference electrode is placed in hole or trench, **flood with 1.5 to 5 gallons of fresh water.**
- Immediately after flooding, backfill the hole with native soil only—do not use sand.
- Tamp backfill to ensure good compaction.

#### 6. Electrical Connection

- Connect the reference electrode lead wire and the structure test lead wire to **separate** terminals in the test box.
- **Do not connect the leads together—doing so may polarize the electrode and damage its accuracy.**