HME Service and Training

TECHNICAL TRAINING

LOOP METERING AND SAWCUT INSTALLATION

HOW TO METER A LOOP

WHY IT IS IMPORTANT

If a loop detector in the drive thru lane is damaged or out of spec, it will not function correctly.

HOW TO METER A LOOP

LOOP LOCATIONS

- Menus
- Windows

HOW TO METER A LOOP

REQUIRED READINGS

1. **Microhenries** (100µH-150µH)
   - Measures magnetic inductance
2. **Resistance** (+/- 1Ω at the loop)
   - Measures the resistance on the line
3. **Megohms** (+50MΩ)
   - Measures insulation current leakage to ground
   - Reading should be steady

HOW TO METER A LOOP

METERS USED FOR LOOPS

LCR

(Extech 390193)

Measures inductance (L) and resistance (R)

MEGOHM

(Extech 380360)

Tests the insulation of wiring for any leaks to ground

MEGOHM

(Extech 403360)

Tests the insulation of wiring for any leaks to ground

HOW TO METER A LOOP

LOCATIONS OF READINGS

- At the loop itself: All 3 readings
- At the VDB: Only Inductance in microhenries (µH) and Line Resistance in ohms (Ω)

DO NOT USE THE MEGOHM METER
ON THE LEAD-IN CABLE

SAWCUT LOOP INSTALLATION

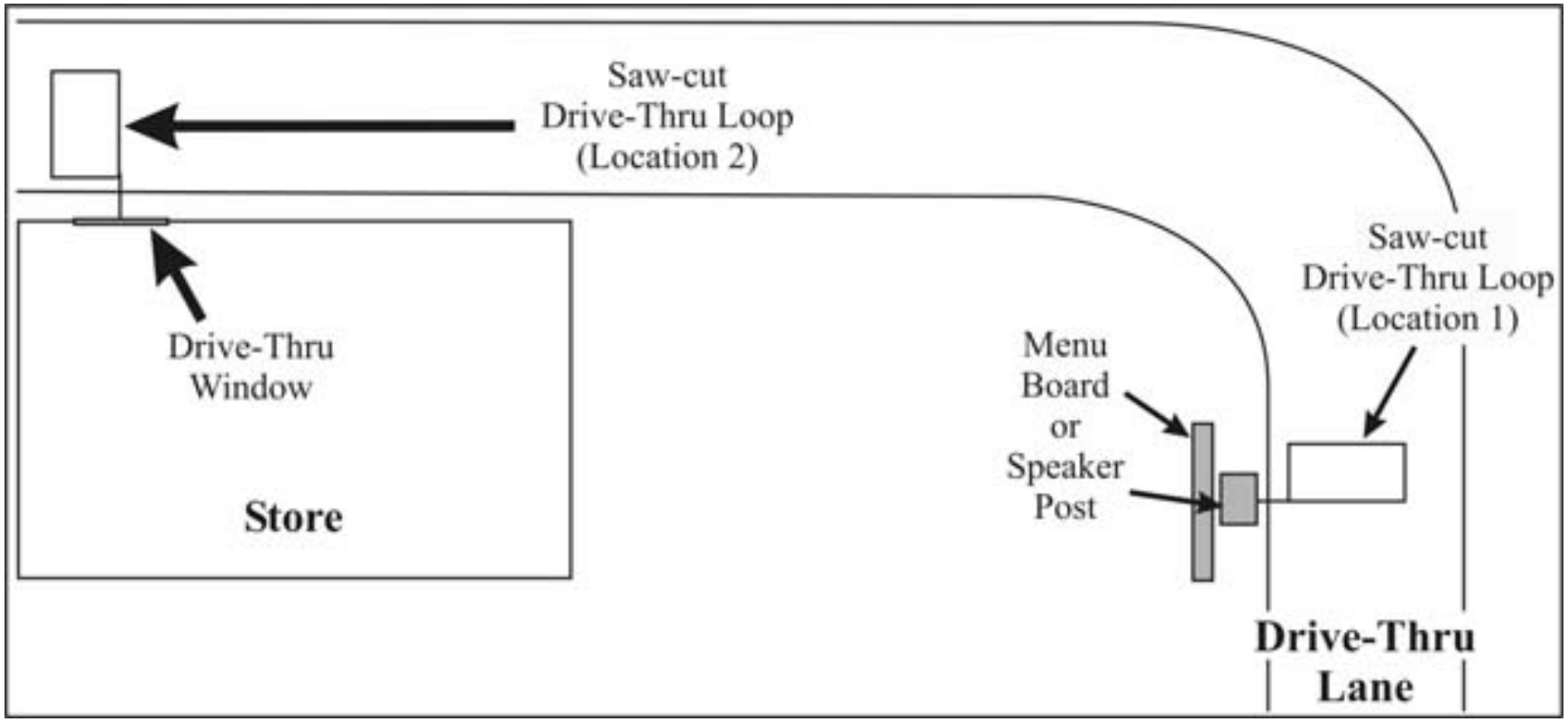
SAWCUT LOOP INSTALLATION

TOOLS/MATERIALS REQUIRED

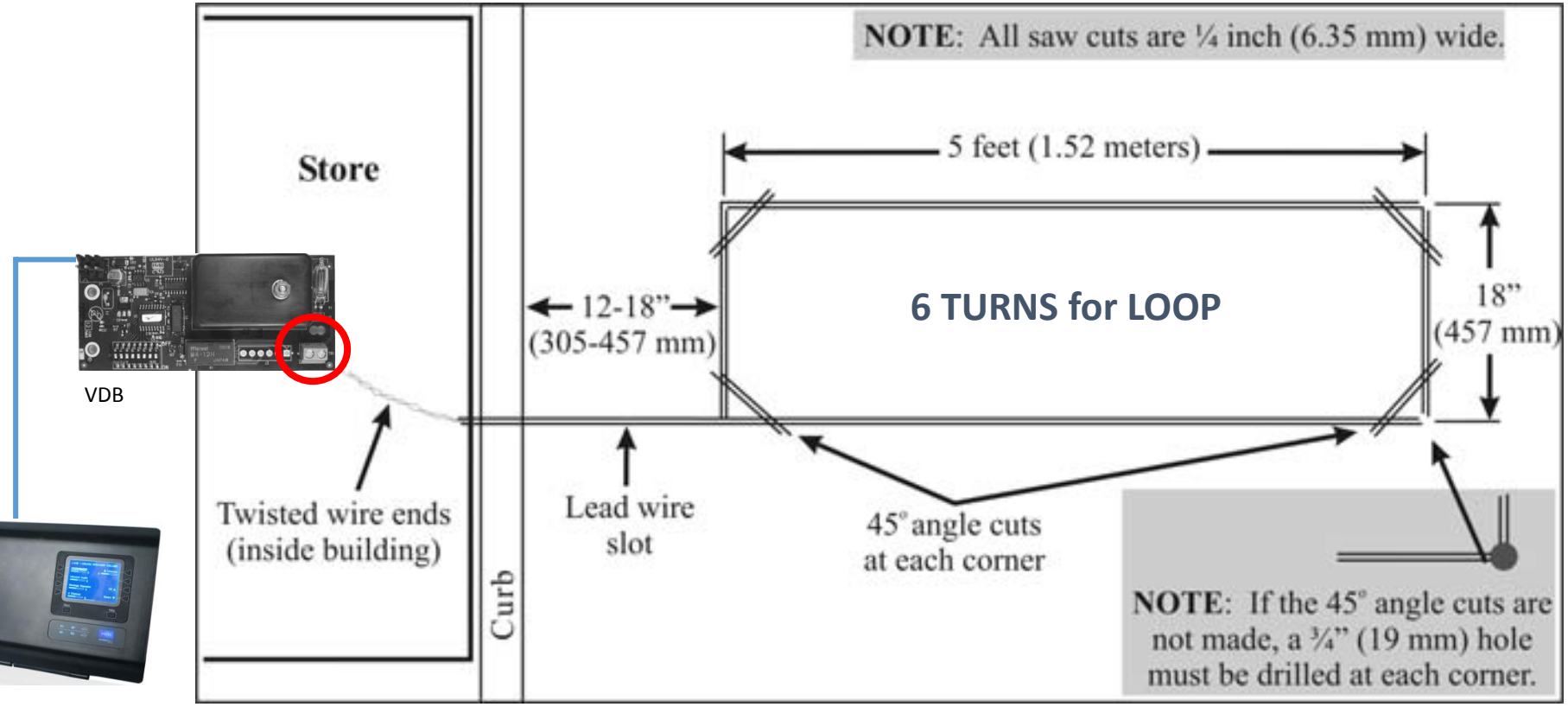
- Drill with ¾ inch (19mm) drill bit (optional)
- Type #20 AWG XLPE cable, 100 feet (30.5 M)
- Concrete and mortar-repair sealant (Quikrete Hydraulic Water-Stop Cement, traffic loop sealant, or equivalent)
- Foam Backer Rod, 3 feet (.91 meter)
- Concrete-cutting saw
- Marking chalk

SAWCUT LOOP INSTALLATION

LOOP LOCATION



SAWCUT LOOP INSTALLATION

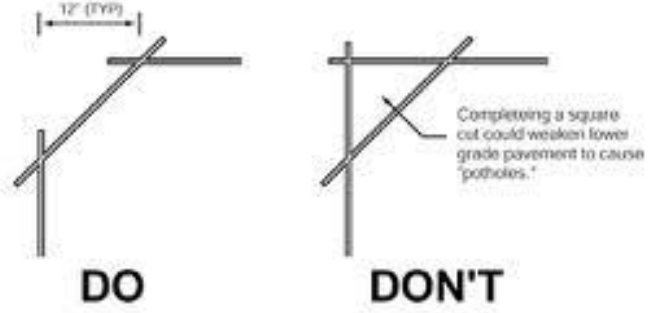


Bases

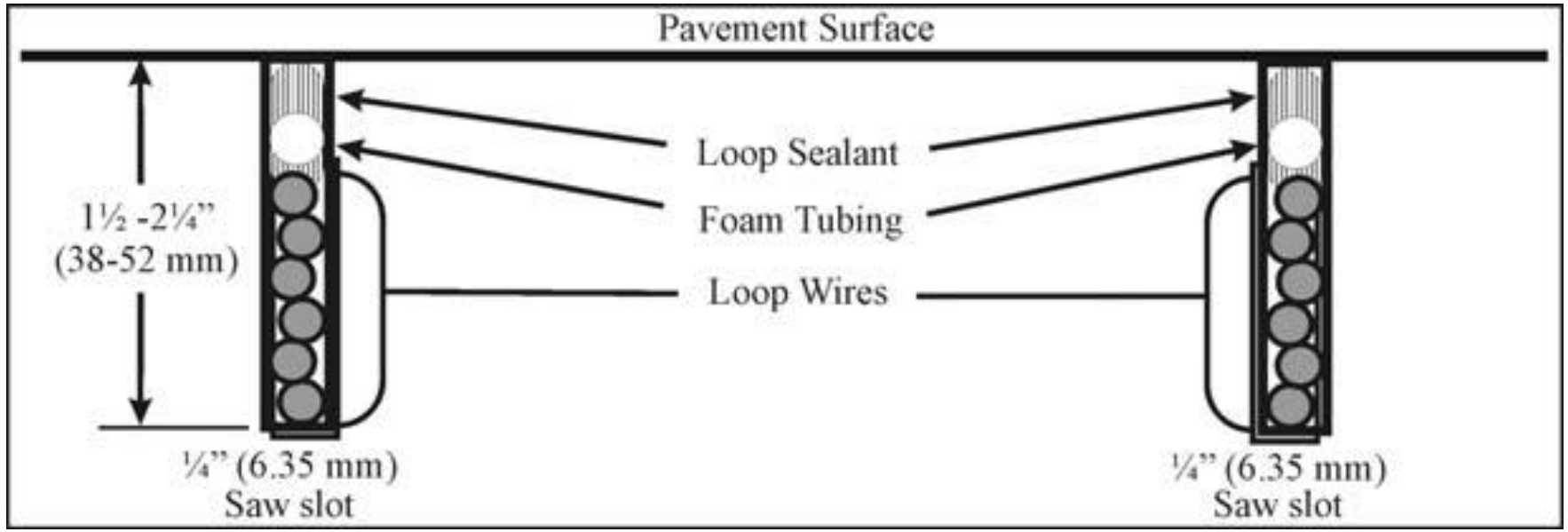
LOOP READINGS:

- Inductance: 100-150 µH
- Loop Resistance: 1 +/- Ω
- Resistance to Ground: 50 MΩ steady to Ground using Megohmmeter

SAWCUT LOOP INSTALLATION



LOOP SIDE VIEW



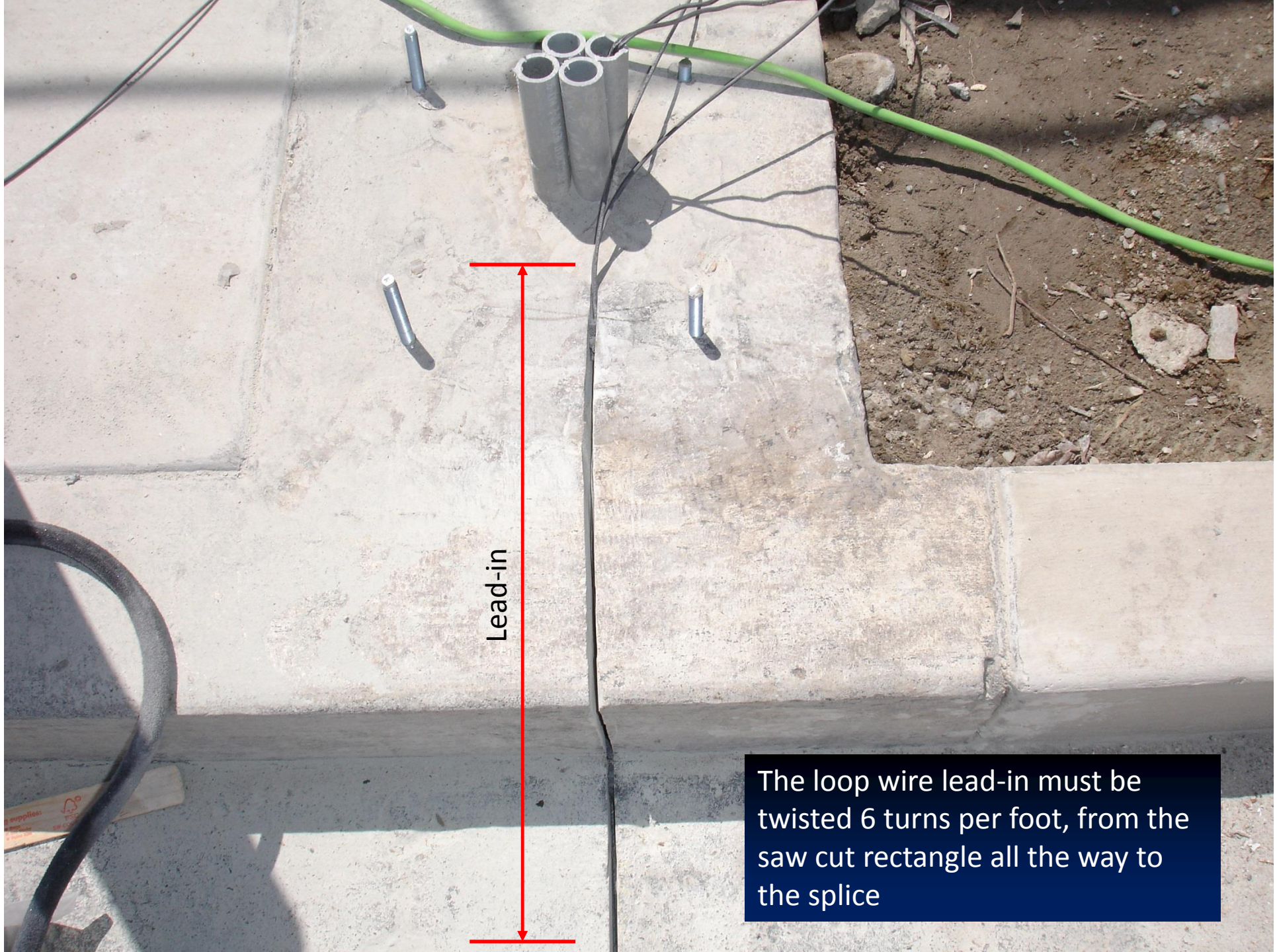

STIHL

A Hand Grinder can help when cutting the curb!

The saw cut is now complete. Next step is to tuck in the loop wire wire.

Using a wooden paint stir stick to prevent damaging the loop wire inexpensive and disposable. Remember to use 2”- 3” pieces of foam backer rod every foot or so to hold the loop windings firmly at the bottom of the saw cut

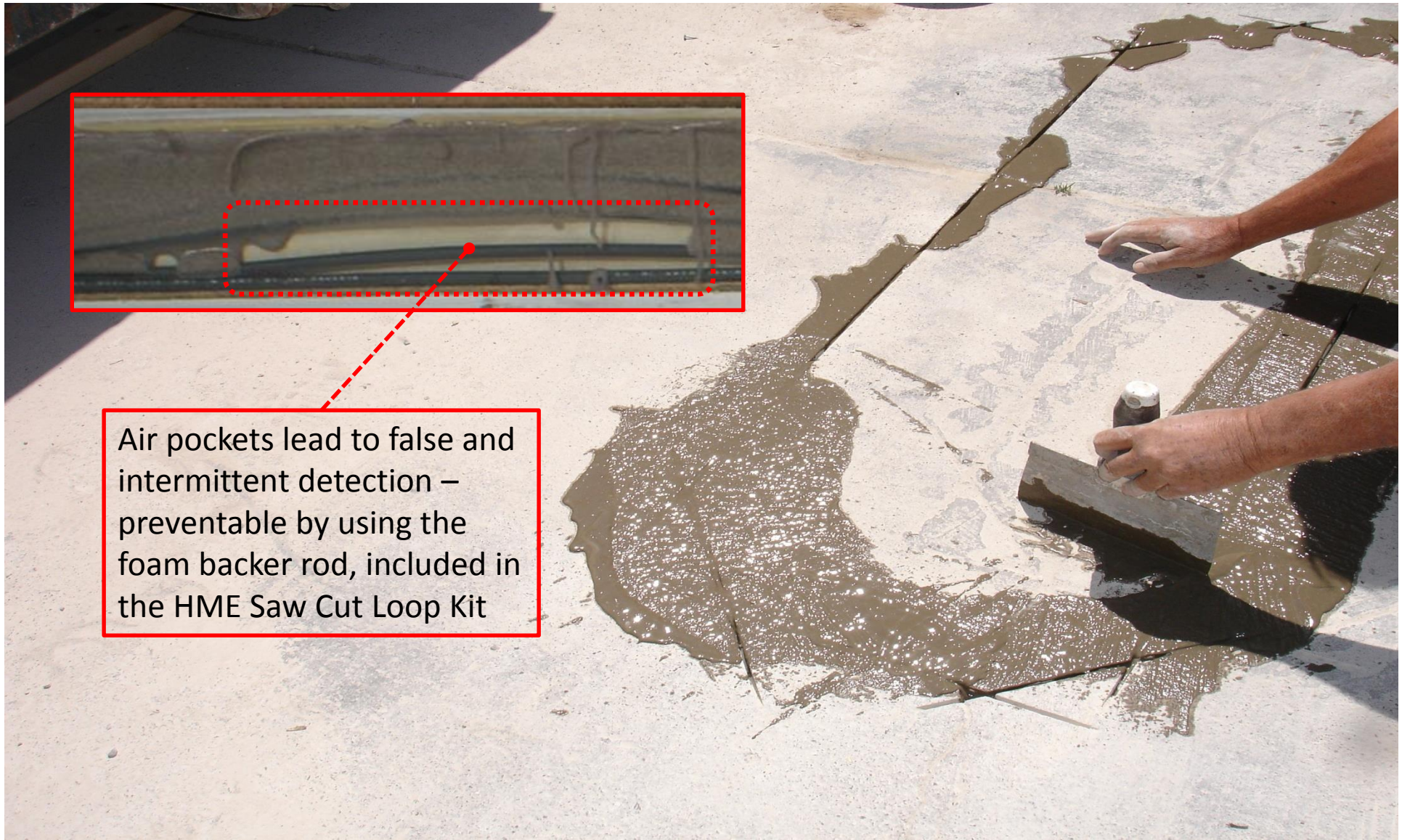
The saw cut is now complete. Next step is to tuck in the loop wire wire.



The loop wire lead-in must be twisted 6 turns per foot, from the saw cut rectangle all the way to the splice

Sealing the Loop

Plaster trowel works great when using water-stop cement. After mixing, simply pour the sealant around the saw cut and then trowel it in.



After pouring, start troweling at the farthest end of the saw cut. That way the mix will thicken up when you get to the vertical part of the curb

A plaster trowel also allows for quick finish work. The overflow will fade away as it dries and cars run over it. Soon the customer will only see a nice, smooth, even-surfaced saw cut.