

LOOP LAYOUT CONSIDERATIONS

1. TRAFFIC FLOW & SPEED

Regard for the basic traffic pattern as it pertains to the area and the door or gate to be controlled is a must. Cross traffic in the area may unnecessarily open doors or gates if not taken into account. Loop placement can also be a means of vehicle speed control. Placing the loops closer to the controlled barrier will force drivers to slow to the prescribed safe speed required for that specific area.

2. MULTIPLE OPERATOR INSTALLATIONS & LOOP SPACING

Physically adjacent loops operating on separate detector modules may interfere (crosstalk) with each other. Adjusting the frequency control on one of the detectors can generally eliminate this interference. However, it is recommended that adjacent loops connected to another system be at least three feet apart. (See *Installation Advice, item 5, for more information.*)

3. REBAR AND OTHER FERROUS OBJECTS

For optimum performance, an area for installation should be chosen that avoids placing the loop directly on reinforcing steel, electrical cables, conduits, or water pipes. The loop should be installed a minimum of three inches away from any stationary ferrous objects. Ferrous objects laying at right angles to the loop wires have less affect on the loop than when laying parallel. (See *Figure 3*)

If this minimum distance can not be attained due to physical constraints or layout requirements, installing a slightly larger loop will help compensate for some of the loss in sensitivity that the ferrous objects create. Electrical cables near the loop may produce

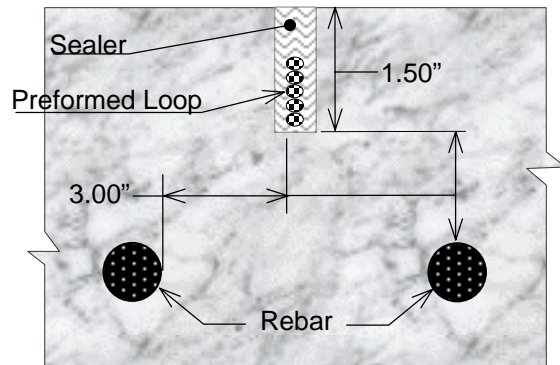


Figure 2: Saw Cut Cross Section

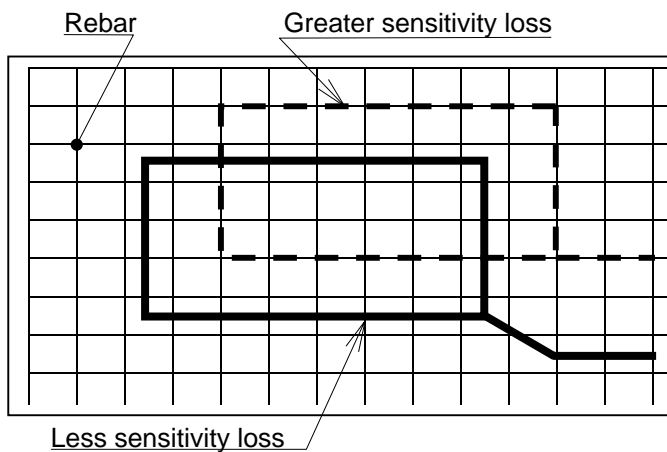


Figure 3: Loop Placement relative to Rebar

intermittent false impulses to the magnetic field generated by the loop, causing erratic operation of the detector.

Loop Phasing

When loops are installed on both sides of a door, reversing the polarity of the loops to each other (phasing) can significantly reduce the interference of the moving door on the inductive field. Connecting the loops out of phase creates a dead zone between the loops. This allows the sensitivity of the system to be increased for more precise operation. Furthermore, some reduction in the prescribed minimum distance between door and loops may be achieved by connecting in this manner. Test loops should be used to determine the exact location before any installation begins.

Note: **More detailed information about phasing available on request.**

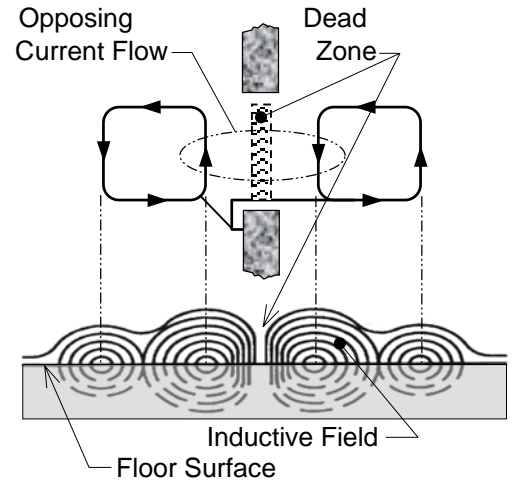


Figure 5: Dead Zone

LOOP SIZE CONSIDERATIONS

1. Major factors that effect loop geometry:

- The traffic lane width or available space for installation.
- The desired zone of detection or loop area.
- The function that the loop will perform. (Open, Safety, Arming)
- The types of vehicles to be detected (frame or axle height form floor)

Minimum Distance Between Door/ Gate & Loop

To prevent disruption of the inductive field by the moving metal door, a loop may be placed no closer to the door than two-thirds (66%) the length of the shortest side of the loop or 3.0' which ever is greater. (Examples, Fig. 3 & 4)

