

State DOT: South Dakota

State Report Questions on NDT Testing

1. What NDT testing methods for concrete materials, concrete pavements, and overlays are you trying?

Ground Penetrating Radar – Central office regularly use for Tie Bars (miles at a time) and occasional (single location) Dowel bars.

Cover Meters – Field & Central office use for general rebar placement

MIT Scan II – borrowed from FHWA a few times, a good tool for single and area location of dowel alignment.

Rebound Hammers – Field office use for general strength determinations

2. In your experience, how does the reliability of NDT testing methods compare to traditional testing methods?

Ground Penetrating Radar – More accurate than a cover meter for hardened concrete reinforcement locations. The speed of data collection also allows the SDDOT to check miles and not just a few single locations.

Cover Meters – more accurate for rebar locations than digging out or locating with a trowel in fresh concrete and faster than coring.

MIT Scan II – The speed at which you can get accurate dowel alignment compared to a GPR for 2 or more joint locations makes it a better tool for Dowel alignment. The software analysis with printout of misalignment makes the analysis phase easy as long as there are no severe misalignments or interfering other rebar.

Rebound Hammers – When putting effort into correlating to cylinders and calibrating hammer, a single user regularly can be less than 1,000 psi different from Cylinders for a paving project. Normal hammer use can be more than 1,000 psi different and more often higher than the Cylinder strength.