

TECHNOLOGY DEPLOYED IN MATC

DIELECTRIC PROFILING SYSTEM (DPS)

Monitor your in-place asphalt pavement mat and joint density

HOW IT WORKS

Collect real-time, continuous asphalt pavement in-place density data using this non-destructive technology, which measures the pavement dielectric constant using air-coupled Ground Penetration Radar (GPR) antennas. Unlike the common practice of extracting cores to determine in-place asphalt density, this technology allows paving professionals to make thickness and compaction adjustments during construction – providing opportunities to save time, effort, and money. Antennas are mounted on a mobile unit and placed above the pavement surface, where they transmit and receive electromagnetic energy signals to determine surface dielectric properties to a depth of 2.5 inches. The dielectric values are then calibrated with field cores and/or project laboratory specimens of known air voids and density. Equipment includes three GPR antennas, a battery, and a display monitor. There are multiple vendors that sell the DPS technology.



Image Source: FHWA
Dielectric Profiling System Device

The DPS can provide continuous predictions by correlating dielectric values with in-place air voids.

Highly
VERSATILE

Training needed
to operate is
MINIMAL



Meets
AASHTO PP 98-19
standards and specifications*



NON-NUCLEAR



Pilot projects have been conducted in: Alaska, Florida, Maine, Minnesota, Nebraska, and Ohio**
National pooled study underway currently includes: Florida, Idaho, Maine, Maryland, Missouri, Nebraska, New York, Pennsylvania, and Washington***

Learn more at <https://www.fhwa.dot.gov/MATC>

* These standards and specifications are not FHWA requirements.

** For more information, visit <https://www.fhwa.dot.gov/pavement/asphalt/pubs/hif19052.pdf>

*** For more information, visit <https://www.dot.state.mn.us/materials/dps/index.html>