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One-Step TDR Method for Water Content and Density of Soil

A new, one-step method from Purdue University provides a safe, fast, and low-cost way to accurately determine soil water content and density in place for construction and foundation work.

Determining the water content and density of soil is very important when designing and building dams, highways, embankments, and foundations. Methods used in the past include cumbersome and primitive manual technologies or nuclear-based technologies that are hazardous and expensive.

Purdue University researchers have developed a new, one-step method for determining water content and density of soil in place, allowing for accurate measurements, faster testing, and a much safer testing environment. In addition, this technology provides a scheme for obtaining soil-specific calibration factors and procedures for adjusting data obtained from a test to improve the accuracy of resulting water content and density.

Advantages:

-Reliable and safe determination of soil water content and density

-Allows for an increase in number of samples taken due to the quick process of soil sampling

-Relatively low cost of obtaining the sample information when compared to previously used methods

Potential Applications:

-Construction industry

TRL: 4

Intellectual Property:

Technology ID
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Category
Buildings, Infrastructure, & Construction/Structural Health Monitoring
Materials Science & Nanotechnology/Materials Testing & Characterization Tools

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