UTEST
MATERIAL TESTING EQUIPMENT

SOIL
Compacted Road Base and Subbase Soils
NUCLEAR DENSITY GAUGE

Product Code

UTS-1050 RoadReader Nuclear Density Gauges Model 3440P

Standards

ASTM D 2950, C 1040, D 6938

The Troxler RoadReader nuclear moisture / density gauges are used by many contractors, engineers and highway departments for compaction control of soil, aggregate, concrete and full asphalt. The ASTM standarts numbers D 2922, D 3017, D 2950 and C 1040 are met or exceeded by these gauges. Two test models are avaliable for density determination: Direct transmission and Backscatter. The operator selects the mode depending on the material type and thickness of the layer being tested. The model 3430 is avaliable with keypad, display and operator's manual in languages and is the siplest most economical gauge offered by Troxler. The Model 3440 provides 30 special functions, storage of up to 1000 test records, an 18-month warranty and many more options that make it simple to operate and a necessity for all technicians.

Three Test Modes

BACKSCATTER

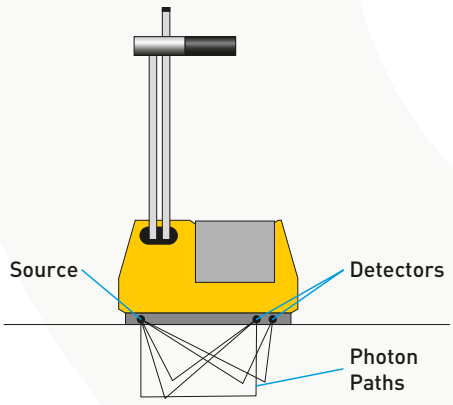
Backscatter is rapid and nondestructive. The gamma source and detectors remain inside the gauge which rests on the surface of the test material. Gamma rays enter the test material and those scattered through the material and reaching the detectors are counted. Backscatter is primarily used to determine density on layers of asphalt and concrete approximately 4" thick.

DIRECT TRANSMISSION

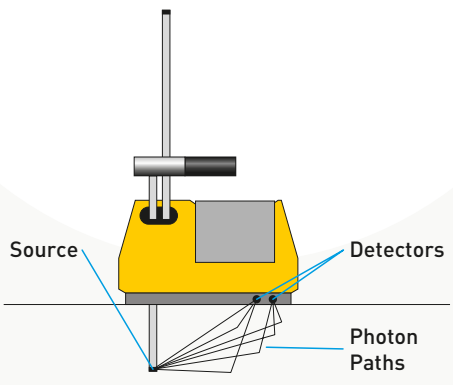
The gamma source is positioned at a specific depth within the test material by insertion into an access hole. Gamma rays are transmitted through the test material to detectors located within the gauge. The average density between the gamma source and the detectors is then determined. Erros resulting from surface roughness and chemical composition of the test material are greatly reduced and aguge accuracy is improved. Direct transmission is used for testing lifts of soil, aggreaget, asphalts and concrete up to 12" depth.

MOISTURE DETECTION

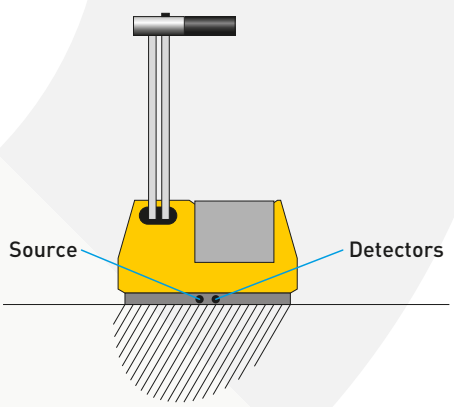
The moisture measurement is nondestructive with the neutron source and detector located inside the gauge just above the surface of the test material. Fast neutrons enter the test material and are slowed after colliding with the hydrogen atoms present. The helium 3 detector in the gauge counts the number of thermalized (slowed) neutrons which relates directly to the amount of moisture in the sample.



Backscatter



Direct Transmission



Moisture Detection

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