

# RoadReader Model 3450

Thin Layer & Full Depth Density Gauge



## **Two Gauges in One Meets Every Compaction Control Demand**

*The Model 3450 combines the proven measurement modes of the Troxler 3400 series gauges with a patented method for true thin layer asphalt and concrete bridge deck overlay density measurement.*

### **One Instrument = All Measurement Capabilities**

The Model 3450 controls compaction at every stage of your project.

- Thin layer mode measures the density of asphalt and concrete overlays between one and four inches (two-and-a-half and ten centimeters) in thickness without influence from the underlying material.
- Backscatter mode is an ideal nondestructive density measurement method for full depth asphalt and concrete approximately four inches (ten centimeters) thick.
- Direct transmission mode is the density measurement method of choice for lifts of soil, soil aggregate, and stone up to twelve inches (thirty centimeters) in depth.
- The moisture system provides a nondestructive moisture measurement for soil and aggregate materials.

### **Quick Density and Moisture Measurements**

In as little as one minute, the gauge provides both density and moisture measurements—including wet density, dry density, moisture, percent moisture, percent compaction, percent voids, and percent air voids—without time-consuming calculations.

### **Easy Operation**

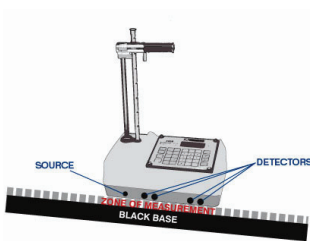
For all its sophistication, the Model 3450 is simple to use. An expanded keypad and easy-to-follow prompts provide access to all major gauge functions.

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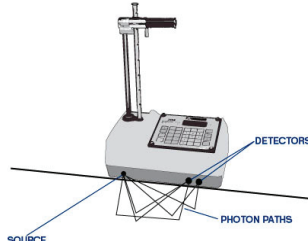
## Thin Layer & Full Depth Density Gauge

### Additional Features

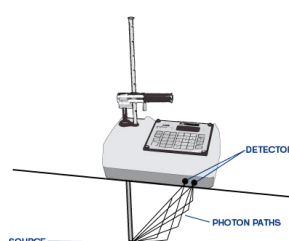
- A backlit screen provides exceptional viewing for low-light and nighttime testing.
- An adjustable beeper signals test completion over the roar of traffic or heavy equipment.
- The gauge stores up to 1,000 test readings under multiple projects for future use and/or download.
- The free Troxler App makes data transfer to a portable device simple.



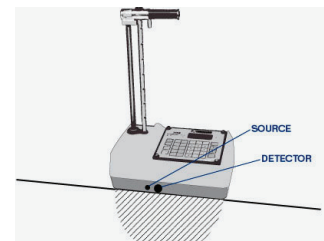
Thin Overlay Asphalt



Backscatter



Direct Transmission



Moisture

### Measurement Specifications (pcf [kg/m<sup>3</sup>])

Direct Transmission Mode (6 in)	15 Seconds	1 Minute	4 Minutes
Precision	0.32 (5.2)	0.15 (2.6)	0.08 (1.3)
Composition Error	0.5 (8)	0.5 (8)	0.5 (8)
Surface Error (0.05", 100% Void)	-1.1 (-18)	-1.1 (-18)	-1.1 (-18)
Backscatter Mode	15 Seconds	1 Minute	4 Minutes
Precision	1.0 (16.0)	0.50 (8.0)	0.25 (4.0)
Composition Error	0.87 (14.0)	0.87 (14.0)	0.87 (14.0)
Surface Error (0.05", 100% Void)	-5 (-80)	-5 (-80)	-5 (-80)
Moisture at 15 pcf (240 kg/m <sup>3</sup> )	15 Seconds	1 Minute	4 Minutes
Precision	0.69 (11)	0.34 (5.5)	0.17 (2.8)
Surface Error (0.05", 100% Void) Measurement Depth = 8.5 in	-1.2 (-19)	-1.2 (-19)	-1.2 (-19)

### Thin Overlay Mode Precision at 15 pcf (240 kg/m<sup>3</sup>)

Time (Minutes)	Thickness 1 in (2.5 cm)	2 in (5 cm)	2.5 in (6.3 cm)	4 in (10 cm)
1	±1 (±16)	±0.6 (±10)	±0.5 (±8)	±0.5 (±8)
4	±0.50 (±8)	±0.30 (±5)	±0.25 (±4)	±0.25 (±4)

### Radiological Specifications

Gamma Source	0.30 GBq (8 mCi) ±10% Cs-137
Neutron Source	1.48 GBq (40 mCi) ±10% Am-241:Be
Source Type	Sealed source, special form
Source Housing	Stainless steel, double encapsulated
Case	DOT 7A, Type A, Yellow II label, TI = 0.3

### Electrical Specifications

Average Power Consumption	Idle Mode Measurement Mode	0.12 W 0.17 W
Stored Power	32 W/h	
Time Before Automatic Shutdown	5 hours of complete inactivity	
Power Sources	NiCad and AA alkaline batteries	
Charge Source	12 VDC nominal, 800 mA minimum	
Battery Recharge Time	4 hours maximum (automatic cutoff)	
Liquid-Crystal Display (LCD)	Four lines, twenty characters per line; alphanumeric; backlit	
Keypad	Thirty-three-key sealed membrane	

### Mechanical Specifications

Gauge Dimensions (L x W x H)	8 in rod = 16.2 x 9.0 x 19.8 in (411 x 229 x 503 mm)	12 in rod = 16.2 x 9.0 x 23.8 in (411 x 229 x 604 mm)
Case Dimensions (L x W x H)	13.9 x 17.9 x 30.8 in (353 x 455 x 782 mm)	
Weight	37.5 lb (17 kg)	
Shipping Weight	96 lb (43 kg)	

### Environmental Specifications

Operating Temperature	32°F to 158°F (0°C to 70°C)
Storage Temperature	-67°F to 185°F (-55°C to 85°C)
Maximum Test Material at Surface Temperature	350°F (175°C) for 15 minutes
Humidity	98%, noncondensing

Made in USA



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