All Measurement Capabilities in One Instrument

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

The Thin Layer mode measures the density of asphalt and concrete overlays from 1 to 4 inches (2.5 to 10 cm) in thickness without influence from the underlying material.

The Backscatter mode is an ideal nondestructive density measurement for full depth asphalt and concrete approximately 4 inches (10 cm) thick.

The Direct Transmission mode is the density measurement of choice for lifts of soil, soil aggregate and stone up to 12 inches (30 cm) in depth.

The Moisture system provides a non-destructive moisture measurement for soil and aggregate materials.

Quick Density and Moisture Measurements

In as little as 1 minute, the Model 3450 provides both density and moisture without time consuming calculations. Direct readout of wet density, dry density, moisture, % moisture, % compaction, % voids, and % air voids.

Easy Operation

For all its sophistication the Model 3450 is easy to use. An expanded keypad and easy to follow prompts provide easy access to all major gauge functions.
RoadReader Model 3450
Soil, Asphalt and Thin Layer
Density and Moisture Gauge

**Measurement Specifications pcf (kg/m³)**

<table>
<thead>
<tr>
<th></th>
<th>Direct Transmission (6&quot;)</th>
<th>Backscatter</th>
<th>Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>15 sec.</td>
<td>15 sec.</td>
<td>15 sec.</td>
</tr>
<tr>
<td></td>
<td>41 min</td>
<td>41 min</td>
<td>41 min</td>
</tr>
<tr>
<td>Precision</td>
<td>0.32 (5.2)</td>
<td>1.0 (16.0)</td>
<td>0.69 (11)</td>
</tr>
<tr>
<td>Composition error</td>
<td>0.5 (8)</td>
<td>0.5 (8)</td>
<td>0.34 (5.5)</td>
</tr>
<tr>
<td>Surface error</td>
<td>-1.1 (-18)</td>
<td>-1.1 (-18)</td>
<td>-1.2 (-19)</td>
</tr>
<tr>
<td>Backscatter Precision</td>
<td>0.87 (14.0)</td>
<td>0.87 (14.0)</td>
<td>0.87 (14.0)</td>
</tr>
<tr>
<td>Surface error</td>
<td>-5 (-80)</td>
<td>-5 (-80)</td>
<td>-5 (-80)</td>
</tr>
<tr>
<td>Moisture at 15 pcf (240 kg/m³) Precision</td>
<td>0.69 (11)</td>
<td>0.34 (5.5)</td>
<td>0.17 (2.8)</td>
</tr>
<tr>
<td>Surface error</td>
<td>-1.2 (-19)</td>
<td>-1.2 (-19)</td>
<td>-1.2 (-19)</td>
</tr>
</tbody>
</table>

**Thin Overlay Mode**

<table>
<thead>
<tr>
<th>Time (minutes)</th>
<th>Thickness 1.0&quot; (2.5 cm)</th>
<th>2.0&quot; (5.0 cm)</th>
<th>2.5&quot; (6.3 cm)</th>
<th>4.0&quot; (10.0 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>±1 (+16)</td>
<td>±0.6 (+10)</td>
<td>±0.5 (+8)</td>
<td>±0.5 (+8)</td>
</tr>
<tr>
<td>4.0</td>
<td>±0.50 (+8)</td>
<td>±0.30 (+5)</td>
<td>±0.25 (+4)</td>
<td>±0.25 (+4)</td>
</tr>
</tbody>
</table>

**Radiological Specifications**

- Gamma source: 0.30 GBq (8mCi) ± 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
- Shipping case: Type A, Yellow II, TI = 0.3

**Electrical Specifications**

- Average Power Consumption: 0.12 watts (Idle mode), 0.17 watts (Measurement mode)
- Stored Power: 32 watt-hours
- Time before automatic shutdown: 5 hours of complete inactivity
- Power sources: Ni-Cad and AA Alkaline Batteries
- Charge source: 12 VDC Nominal, 800 mA Minimum
- Battery recharge time: 4 hours maximum, automatic cutoff
- Liquid Crystal Display: Alphanumeric, 4 line x 20 character, backlit
- Keypad: 33 key sealed membrane

**Mechanical Specifications**

- Gauge size 8" rod: 19.8 H x 16.2 L x 9.0 W inches (503 H x 411 L x 229 W mm)
  12" rod: 23.8 H x 16.2 L x 9.0 W inches (604 H x 411 L x 229 W mm)
- Shipping Case Size: 30.8 H x 13.9 L x 17.9 W inches (782 H x 353 L x 455 W mm)
- Weight: 37.5 lbs (17 kgm)
- Shipping weight: 96 lbs (43 kgm)

**Environmental Specifications**

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

**Additional Features**

- Backlit screen - provides exceptional viewing for low light and night time testing.
- Adjustable Beeperr - signals test completion over the roar of traffic or heavy equipment.
- Data Storage and Transfer - stores up to 1000 test readings under multiple projects for later recall or downloading.
- The Free Troxler App - makes data transfer to a portable device simple.