TROXLER®

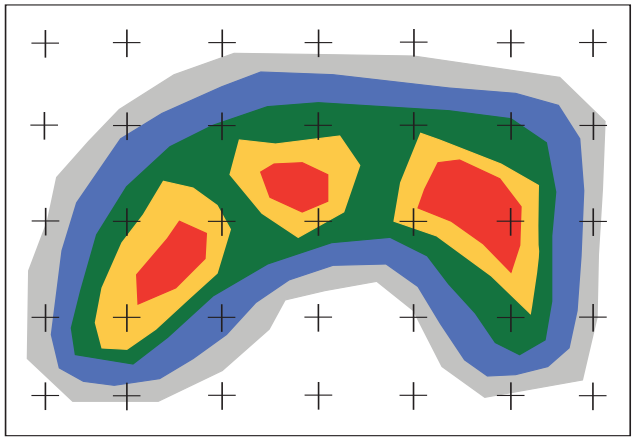
The leader in construction test equipment

RoofReader™ Roof Moisture Gauge

Model 3216

Water infiltration is one of the industry's most persistent and costly problems. Leaks, loss of insulating properties, structural deterioration and property damage cost owners of large, flat, built-up roofs billions of dollars every year. This often results in complete removal and replacement of all roofing materials. Rising energy and roofing material costs compound the problem.

The Troxler RoofReader™ allows mapping of hydrogen concentrations within the roofing structure, permitting repair or replacement of only saturated areas. As part of a preventative maintenance program, the RoofReader quickly pinpoints problem areas, saving time and minimizing capital outlay. The RoofReader is also an effective quality assurance tool on new roofing materials for warranty verification and for tracing leaks.



Graph shows how roof moisture data levels would appear when plotted.

TROXLER®

www.troxlerlabs.com

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Troxler is a proud member of:

Winner of the 2003 IRF Global Road Achievement Award in the category of Technology, Equipment & Manufacturing

Features & Benefits

- Rapid Results
  Press the start button on the handle or gauge base, wait 7.5 seconds for the audio beep and record your reading. There is also a scanning meter that provides an instantaneous indication of the presence of hydrogen.

- Versatile
  The 3216 weighs only 9 lbs. (4 kg), has a handle height which adjusts for user comfort and has a tilting handle to allow testing underneath air conditioning units and other structures.

- Nondestructive
  The 3216 operates on the principle of neutron moderation. Fast neutrons emitted by a radioactive source are slowed by hydrogen in the roof. Slowed neutrons are detected and counts displayed are proportional to moisture (hydrogen) content. Statistical analysis reduces data to wet and dry areas. Core samples can be taken to verify results.

USA Patents:

Canada Patents:

Application

1. A grid is laid out on the roof area. A typical grid size is 10' x 10' (3m x 3m).
2. Nondestructive nuclear moisture counts are taken at each grid intersection and recorded. The manner in which the survey is performed negates surface texture effect (gravel does not have to be removed from the roof surface). Because of its compact design, light weight and convenient carrying height, the gauge is quickly and easily moved between test points.
3. Proper interpretation of data can establish dry areas and varying degrees of moisture intrusion. A frequency histogram is one simple way of handling data which will establish wet and dry areas. A 3-D surface plot (or contour map) of the roof may be prepared to aid in replacing the affected areas. Both of these types of graphs can easily be created using a spreadsheet program like Microsoft® Excel™. Instant reading by the scanning meter can be used for quick troubleshooting of wet areas.

SPECIFICATIONS

Measurement

US Customary Units	7.5 sec	15 sec	60 sec
Precision at 12.5 pcf (±pcf)	0.74	0.52	0.26
Depth of Measurement at 12.5 pcf (inches)	—	8.9	—
Useful Measurement Range (pcf)	—	0-62.4	—
SI Units	**7.5 sec**	**15 sec**	**60 sec**
Precision at 200 kg/m³ (±kg/m³)	11.9	8.4	4.2
Depth of Measurement at 200 kg/m³ (mm)	—	225	—
Useful Measurement Range (kg/m³)	—	0-1000	—

Mechanical

Gauge Materials	Stainless steel base, anodized aluminum handle, ABS plastic top cover
Operating Temperature	-10 to 70ºC (14 to 158ºF)
Storage Temperature	-55 to 85ºC (-67 to 185ºF)
Surface Contact Dimensions	190 x 229 mm (7.5 to 9 inches)
Height without Handle	495 mm (19.5 inches)
Height with Handle	770 mm (30.3 inches)
Weight	4.1 kg (9 lbs.)
Shipping Weight	12 kg (26.5 lbs.)
Shipping Case	670 x 406 x 330 mm (26.5 x 16 x 13 inches)

Electrical

Time Accuracy & Stability	±0.0005% ±0.0002% / ºC
Battery Capacity	14 watt hours
Charge Source	100/220 V, 50-60 Hz or 12-14 VD
Battery Recharge Time	AC charger 14 hours, DC charger 3 hours
Readout LCD	4 digits
Power Consumption	0.08 watts
Power Consumption After Automatic Battery Cutoff	0.001 watts

Battery packs are protected against overcharge or over discharge. Low battery alarm is indicated on the display several hours prior to automatic cutoff.

Radiological

Source Form	Stainless steel, double encapsulated
Source Classification	ANSI-C54444
Maximum Surface Dose Rates	4.5 mrem/hr neutron, 1 mrem/hr gamma
Shipping Case	DOT 7A, Type A, Yellow II label, TI 0.1
Radionuclide	Am-241:Be, 40 millicuries

Standard Equipment

- Shipping case
- AC charger
- DC charger
- Operator's manual

TROXLER

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