

# Protimeter Speedy 2000 Moisture Meter

Speedy Moisture Tester for Roads, Aggregates, Sand and Concrete  
Over 10 000 used by USA Highway Dept & Iscor & Civil Engineers



The New Speedy 2000 series are used throughout the world by a diverse range of industries to measure the content of materials including soils, aggregates, concrete, sand and powders. Principal users include geotechnical engineers on civil engineering projects, building surveyors and restorers. Other substantial user groups include mining, steel production, foundries and ceramics.

## Features

When compared with other moisture measurement systems, the Speedy Tester is often the most practical solution, especially when working in the field

- Accurate and simple to use
- Robust and reliable
- Portable and requires no external power source
- Versatile – many materials can be measured over a wide moisture content range

## Operating Principle

The Speedy tester is a portable system comprising a vessel with an integral pressure gauge, a weighing scale and a carry case. A small sample of the material is prepared, weighed and placed into the vessel. A reagent is then added, and the vessel is sealed and shaken to mix the reagent with the sample. Free moisture within the sample reacts with the reagent to produce a gas and pressure rise within the vessel that is proportional to the amount of moisture. The moisture content value is then read directly from the calibrated pressure gauge.

## Speedy 2000 Moisture Meter Test Procedure

The Speedy 2000 series of moisture testers combines time proven dependability of the pressure test procedure with the convenience of an electronic balance.

Moisture measurements are obtained by following a simple test procedure:

- Prepare and weigh the material sample using the electronic balance
- Place the sample in the Speedy vessel
- Add the reagent to the recess in the Speedy cap and seal the vessel
- Shake the Speedy to mix the reagent with the sample
- Read the moisture content directly from the integral gauge



All the component parts of the Speedy 2000 series have been selected for their quality, functionality and durability for use in demanding field or site locations. A pressure gauge with a moisture measurement range of 0-20% is fitted as a standard to both the Large and Standard vessels, but gauges with both wider and narrower moisture ranges are available.

## Technical Specifications

Protimeter Speedy	Standard S2000	Large L2000
Moisture measurement range expressed as a percentage of the wet weight of the sample.	0 - 20% (standard) 0 - 5% (option) 0 - 10% (option)	0 - 20% (standard) 0 - 10% (option) 0 - 50% (option)
Sample weight	For 0 - 20 %mc range: 6g For 0 - 5 %mc range: 10g For 0 - 10 %mc range: 12g	For 0 - 20 %mc range: 20g For 0 - 5 %mc range: 40g For 0 - 10 %mc range: 8g
Maximum sample size	10mm	20mm
Weight	5.5kg	6.0kg
Dimensions (cm)	51 x 38 x 20	51 x 38 x 20

## Packing List

### Standard Speedy

Speedy Standard Vessel manufactured from Cast Aluminium fitted with a calibrated pressure gauge

Electronic balance with large scale pad

Cleaning brush and cloth

Measuring scoop

Waterproof and shockproof carry case with high density foam insert

User instructions



### Large Speedy

Speedy Large Vessel manufactured from Cast Aluminium fitted with a calibrated pressure gauge

Electronic balance with large scale pad

Cleaning brush and cloth

Two steel sample-pulverising balls

Measuring scoop

Waterproof and shockproof carry case with high density foam insert

User instructions



**Note: Calcium Carbide reagent is used with the Speedy Testers but needs to be ordered separately**



## Applications

### Roads and Highways

Knowledge of the moisture content of soil is crucial throughout geotechnical engineering practice. Engineers use the Speedy for field control of compacted earth embankments and other structures and to measure the water content of soil to ensure it is within specified ranges. Confidence in the test results is crucial, but the test equipment also has to be robust and simple to use. The Speedy tester meets both requirements. It is recommended by the American Highway Authority and is approved by the American Society of State Highway Transportation Officials (ASSHTO) and by the American Society for Testing and Materials (ASTM)



### Aggregates, Sand and Concrete

The moisture content of freshly mixed concrete affects the workability, blending, segregation, strength and drying rate of the finished product. The Speedy Tester is an ideal on-site quality control tool that enables the site manager to ensure best practice is being followed.

Moisture levels of aggregates and sand can be checked prior to use ensure that the correct amount of water is added when mixing with cement. The moisture content of ready-mix concrete can be checked on site arrival to ensure it is within specification.



### Building Restoration and Refurbishment

Building surveyors involved with diagnosing the cause of dampness in buildings use the Speedy tester to determine the moisture level in walls and floors. The Speedy complements moisture meters and hygrometers that are also used for diagnosis.

If the structure under investigation is contaminated with the conductive hygroscopic salts, moisture meter readings may not truly reflect the moisture condition. Ambiguity that may be associated with interpreting moisture meter readings in contaminated material are reduced by also measuring the actual moisture content of wall or floor samples with the Speedy Tester and by using a hygrometer to measure the materials equilibrium relative humidity (ERH)

The Building Research Establishment Digest 245 details how a Speedy tester is used in the context of rising dampness diagnosis and treatment.



### Solid Floors

If moisture related floor failures are to be avoided, concrete floor slabs, cementitious screeds and anhydrite screeds have to be in a dry condition before decorative floor finished, including wood, vinyl and carpets are laid.

Many countries have adopted floor testing standards that use ERH measurement techniques whilst others use the DIN18365 standard which specifies moisture content measurement techniques. The Speedy tester is used to measure the moisture content of a sample of material removed from the floor before the decorative finish is laid.

