



Melbourne Office
Niddrie
(03) 9938 3830
r.barnes@pcte.com.au

Perth Office
Nowergup
(08) 9407 5363

Website
www.pcte.com.au

Sydney Office
Brookvale
(02) 9939 7177

Parrot Permeability Tester

Introduction

Designed by the BCA, This equipment measures air permeability and relative humidity of cover concrete on site.



Procedure

To perform the test, a blind hole drilled or formed in the concrete is sealed with a special plug, and the resulting cavity pressurized with air. The permeability of the concrete is calculated from the time taken for the pressure to drop.

If the capillary pores are partially blocked with moisture, the permeability is reduced. To get an accurate value for the permeability, the relative humidity of the cavity is also measured.

To carry out the test, a blind hole 20 mm diameter by 35mm deep is cast, drilled or cut in the concrete with a diamond-tipped coring tool.

A stainless steel insert is located into the hole and sealed, creating a measurement cavity of known volume inside the concrete.

The relative humidity of the cavity is measured by inserting a capacitive humidity probe through the insert and taking its reading after one minute. The probe is then removed and inserted above a saturated salt solution of a similar humidity to that measured in the concrete, for a similar length of time. This procedure allows the humidity measured in the concrete to be corrected by reference to a known value.

A pressure manifold, fitted with a pressure transducer and a Schraeder valve, is attached to the insert, and pressurized using an automobile-type foot pump.

The change in output from the pressure transducer as the air permeates through the concrete is monitored on a battery-operated digital meter, and the time taken for the pressure to decay is monitored using a stopwatch.

The saturated salt solutions provided for correcting the relative humidity cover the humidity range encountered in practice.

Specification

- Pressure sensor -2 bar silicon diaphragm
- Pressure meter - battery-operated, direct-reading LCD display
- Humidity meter - Vaisala relative humidity temperature meter with retractable probe
- Stainless steel pressure manifold
- five stainless steel inserts
- Stopwatch
- Insertion tool
- Salt solutions
- All items enclosed in a purpose-made carrying case, 515 x 375 x 125 mm.

About PCTE

PCTE have over 30years experience in the measurement and testing of concrete. With experience in research, consulting and construction they are able to assist you in reviewing the issues and developing solutions. PCTE can provide more than just the equipment. They can provide leading technical support for your business.

Other Equipment

The full Proceq range of equipment is available for insitu non destructive concrete measurement, including Schmidt Hammers, Covermeters, Half Potentials, Resistivity, Ultrasonics and Permeability.

We also supply Intelli-Rock maturity, temp and humidity logging systems, corrosion rate monitoring equipment, Ground Penetrating Radar, and Impact Echo.