

DATA SHEET

Air and Water Permeability Test Set. John Figg Method



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General description

This method covers the determination of susceptibility to chloride and carbonation penetration into the concrete. The apparatus can be used for:

Internal (deep permeability) test

A hole 10 mm dia., 40 mm deep is drilled and plugged leaving a cylindrical test void 10 mm dia. 20 mm high, situated 20 mm below the concrete surface. The time required for air and water to permeate through the test material to the void is used as an index to determine the quality of the concrete under test.

Air permeability

The air permeability test is always done first since moisture has a large effect on permeability. Following the test procedure instructions, based on the vacuum technique, the instrument timer and manometer automatically show the time in seconds for the vacuum to fall from a -55 kPa to a -50 kPa. This time is the Figg number and is a measure of the air permeability of the concrete.

Water permeability

After filling and forcing the water into the test cavity, the air is displaced out through the overflow tube. The instrument flow sensor and timer, following the test procedure, measure the time taken for the water meniscus to travel a distance of 50 mm. The time in seconds displayed on the meter, is the Figg number for water permeability.

Surface permeability test

Measurements are carried out at the surface by clamping a stainless steel chamber on the smooth surface of the concrete. A measurement of the time required for related amounts of air and water to permeate through the concrete is used as an index of the surface conditions.

Specifications

The apparatus comprises:

- Digital manometer
- Hand vacuum pump
- Water syringe
- Pack of 25 test plugs

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Cup grinding wheel

Stainless steel surface chamber and clamping pliers, drill bits, anchors.

Carrying case and instruction manual

Power supply: standard 9 V battery

Case dimensions: 430x300x150 mm

Weight approx.: 5.4 kg



Products

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Accessories and consumables

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Pack of 25 test plugs.