

Concrete Electrical Resistivity Meter

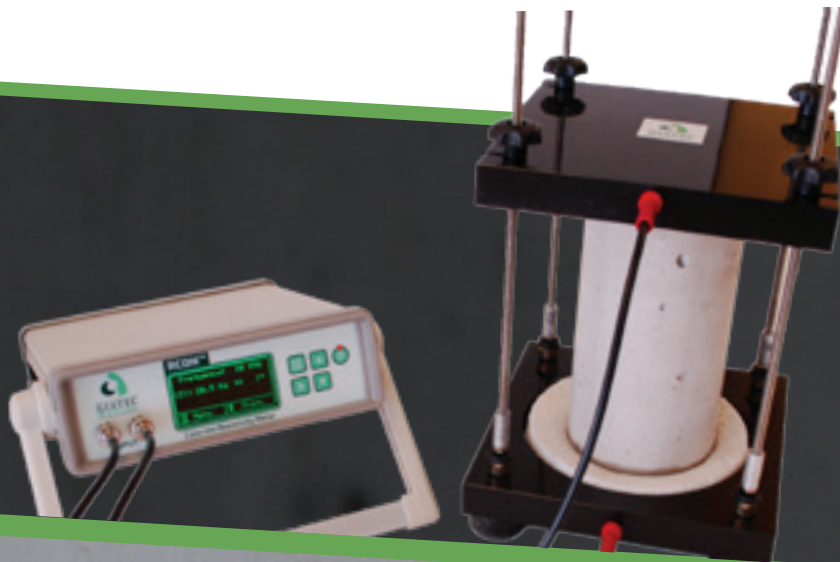
RCON2™ employs AC impedance technique for the accurate and fast readings that can be continuously obtained using its customizable and user-friendly operating software for various concrete materials.

Overview

RCON2™ is an advanced tool for the bulk electrical resistivity measurement of concrete. RCON2™ employs an AC impedance measurement for accurate and fast readings that can be continuously obtained using its customizable and user-friendly operating software for various concrete materials. The electrical resistivity of concrete can be simply related to their pore network characteristics such as pore size and their connectivity, moisture content in the pores, and pore solution chemistry. In concrete materials, the electrical resistivity is correlated with important durability parameters such as permeability and diffusivity.

Applications

In addition, this non-destructive test can be easily conducted on fresh or hardened concrete specimens at different ages or various stages of hydration in order to study workability, setting, and durability performance of concrete. The electrical resistivity method has also been applied to investigate corrosion of rebar in concrete, creep, aggregate segregation, and freeze and thaw of concrete since they affect the pore network properties.



Features

- Fast (<5 Second)
- Accurate ($\pm 2\%$)
- AC measurement (Galvanostatic)
- Wide range of measurement frequencies (1Hz to 30kHz)
- Phase detection (0-180 degree)
- Stand-alone operation
- Continuous measurement
- User-friendly PC software
- Flexible sample holders
- Customizable setup
- USB connection to computer



Continuous measurement



Phase detection (0-180 degree)

Technical Specifications

Reading Range and Accuracy

Reading Range	Frequency Spectrum	Phase Measurement	Impedance Accuracy	Phase Accuracy
1-100 Ω	1Hz – 30KHz	0-180°	$\pm 2\%$ ± 2 digit	5% ± 3 digit
0.1-1K Ω				
1-10K Ω				
10-100K Ω				
0.1 – 1M Ω	1Hz – 10KHz			

Operating Conditions

Type	Value
Operating Temperature	15°C - 45°C (59 - 113°F)
Operating Humidity	20% - 80%
Storage Temperature	-20°C - 70°C (-4 - 158°F)
Storage Humidity	5% - 90%
Operating Voltage/ Current	100 – 240V, 50/60Hz
Dimensions	200 x 230 x 70mm
Data Acquisition Software (PC software)	Yes

Measurement Time

Frequency	Sampling Time	Reading Time (minimum)
1Hz – 4Hz	5 seconds	10 seconds
5Hz – 30KHz	1 second	2 seconds

“The RCON device is an amazing tool for the concrete arena. We have successfully used the RCON on a wide variety of projects. It’s ease of use coupled with dating relating to permeability helps us determine the appropriateness of concrete mixtures and the impact of the constituents.”



Dr. Jon Belkowitz
Intelligent Concrete.