resipod

The world's most accurate concrete surface resistivity meter

Surface resistivity measurement provides extremely useful information about the state of a concrete structure. Not only has it been proven to be directly linked to the likelihood of corrosion and the corrosion rate, recent studies have shown that there is a direct correlation between resistivity and chloride diffusion rate. The versatility of the method can be seen in these example applications:

- Estimation of the likelihood of corrosion
- Indication of corrosion rate
- Correlation to chloride permeability
- On site assessment of curing efficiency
- Determination of zonal requirements for cathodic protection systems
- Identification of wet and dry areas in a concrete structure
- Indication of variations in the water/cement ratios within a concrete structure
- Identification of areas within a structure most susceptible to chloride penetration
- Correlation to water permeability of rock

Resipod is a fully integrated 4-point Wenner probe, designed to measure the electrical resistivity of concrete in a completely non-destructive test. It is the most accurate instrument available, extremely fast and stable and packaged in a robust, waterproof housing designed to operate in a demanding site environment.

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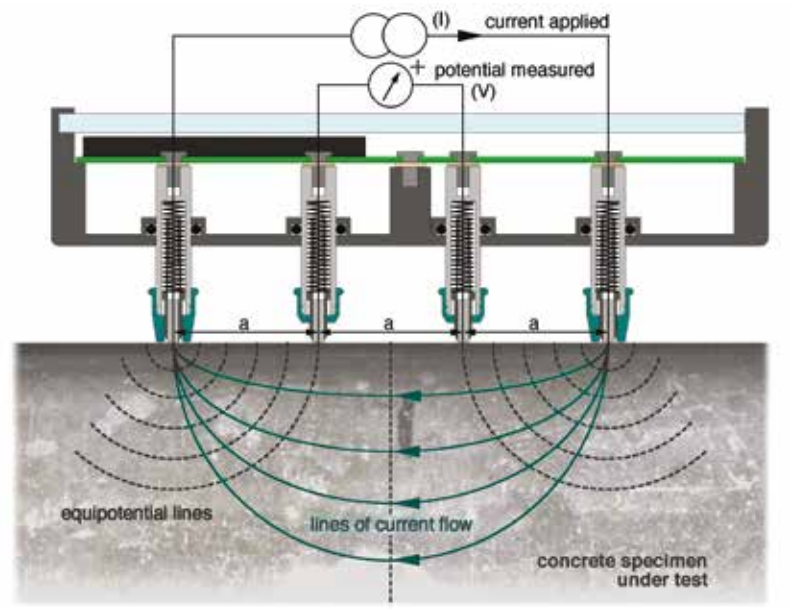
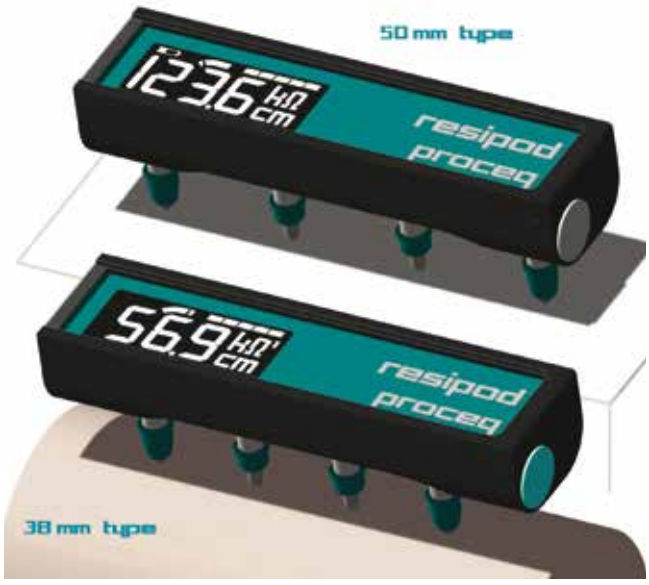
The measurement principle

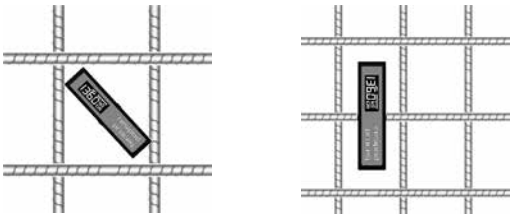


Operating on the principle of the Wenner probe, the Resipod is designed to measure the electrical resistivity of concrete or rock. A current is applied to the two outer probes, and the potential difference is measured between the two inner probes. The current is carried by ions in the pore liquid. The calculated resistivity depends on the spacing of the probes.

Resistivity $\rho = 2\pi aV/I$ [kΩcm]

Resipod Models and Probe Spacing





A wider probe spacing provides a more consistent reading when measuring on an inhomogeneous material like concrete. However, if the spacing is too wide, there is more danger of the measurement being affected by the reinforcement steel. The industry standard 50 mm probe spacing has long been seen as a good compromise.

The 38mm (1.5”) model is designed specifically to comply with the AASHTO TP 95-11 standard for “Surface Resistivity Indication of Concrete’s Ability to Resist Chloride Ion Penetration”.

The Surface Resistivity (SR) test is a much quicker and easier test for estimating concrete permeability. It is a proven and mature test method which can replace the more laborious rapid chloride permeability test.

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Unmatched Features

Despite being extremely simple to use, Resipod provides a variety of features that are unique in a concrete surface resistivity instrument.

- Fully integrated surface resistivity instrument
- Wide measuring range (0 to ca. 1000 kΩcm)
- Fast and accurate delivery of measuring results
- Highest resolution available for a surface resistivity instrument
- Meets the AASHTO TP 95-11 standard (38mm, 1.5” probe spacing)
- Current flow indication and poor contact indication
- Hold, save and delete function, with onboard memory
- USB connection and dedicated PC software
- Designed to float (waterproof accoring to IPX7)
- Allows variable probe spacing to be set
- Allows replacement of standard tips with accessories

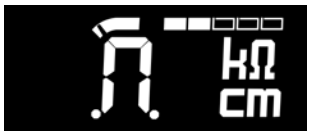
Resipod Display

The display of the Resipod shows all necessary information while acquiring data on site.

1. Measured resistivity
2. Battery status
3. Range indication
4. Current indication
   20%, 40%, 60%, 80%, 100%
5. Indication of scaled reading

Indication of poor connection

A good connection between the instrument and the concrete surface is the most important factor for obtaining a reliable measurement. Resipod automatically detects a poor connection and alerts the user.



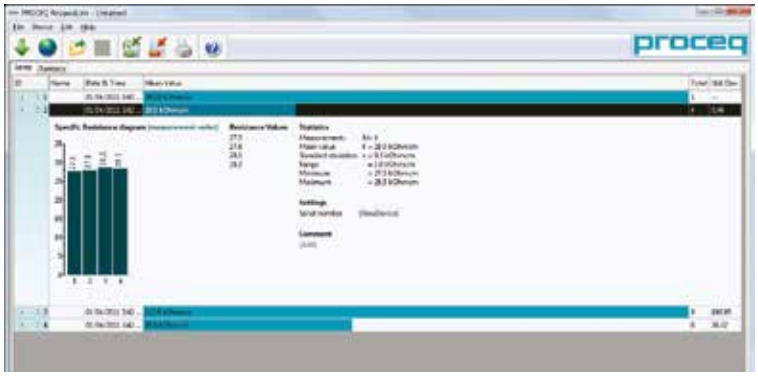
No contact inner probes

Overflow

“Open Line” indication

ResipodLink Software

The collected measurement values can then be analyzed comfortably with the Resipod Link PC tool.



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Technical Information Resipod

Range	0.1 – ca. 1000 kΩcm (depending on probe spacing)
Resolution (nominal current 200µA)	±0.2 kΩcm or ±1% (whichever is greater)
Resolution (nominal current 50µA)	±0.3 kΩcm or ±2% (whichever is greater)
Resolution (nominal current <50µA)	±2 kΩcm or ±5% (whichever is greater)
Frequency	40 Hz
Memory	Non volatile, ca. 500 measured values
Power Supply	>50 hours autonomy
Charger connection	USB type B, (5V, 100mA)
Dimensions	197 x 53 x 69.7 mm (7.8 x 2.1 x 2.7 inch)
Weight	318 g (11.2 oz)
Operating temperature	0° to 50°C (32° to 122°F)
Storage temperature	-10° to 70°C (14° to 158°F)

Technical Information Resipod Link software

System requirements: Windows XP, Windows Vista, Windows 7, USB-Connector
An internet connection is necessary for soft- and firmware (using PqUpgrade) updates if available.

Ordering Information

Units	**Description**
381 10 000	Resipod, 50mm probe spacing, test strip, foam contact pads, charger with USB-cable, software, carrying strap, documentation and case.
381 20 000	Resipod, 38mm (1.5”) probe spacing, test strip, foam contact pads, charger with USB-cable, software, carrying strap, documentation and case.
Parts and Accessories	
381 01 050	Extension cable set
381 01 043S	Set of replacement foam contact pads (20 pieces)
381 01 038	Test strip
381 01 014	USB cover
391 80 110	Carrying strap
341 80 112	USB charger, global

Service and Warranty Information

Proceq is committed to providing complete support for the Resipod testing instrument by means of our global service and support facilities. Furthermore, each instrument is backed by the standard Proceq 2-year warranty and extended warranty options.

Standard warranty
Electronic portion of the instrument: 24 months
Mechanical portion of the instrument: 6 months

Extended warranty
When acquiring a Resipod, max. 3 additional warranty years can be purchased (for the electronic portion of the instrument). The additional warranty must be requested at time of purchase or within 90 days of purchase.

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... more than 50 years of know-how you can measure!