



Surf™

Laboratory Device for Testing the Surface
Electrical Resistivity of Concrete



Four
Measurement
Channels



Fast
& Accurate
Data



Automatic
Report
Generation

Overview

Surf is a laboratory device for testing the surface electrical resistivity of concrete based on the four-probe (Wenner-Array) technique. Surf automatically measures surface resistivity using the 4-probe array which are located at 90 degrees from each other. These measurements are used to estimate the resistance of chloride penetration in the concrete. This shows the qualitative relationship between the rapid chloride penetrability test (RCPT), and the surface electrical resistivity of concrete. This device can also be used for durability-based quality control of concrete and for monitoring the service life design of a structure.

| Chloride Penetration | 56-Day Rapid Chloride Permeability Charge | Surface Resistivity at 23°C/ 73°F (k Ω cm) |
|----------------------|---|--|
| High | >4000 | <10 |
| Moderate | 2000-4000 | 10-15 |
| Low | 1000-2000 | 15-25 |
| Very Low | 100-1000 | 25-200 |
| Negligible | <100 | >200 |

Reading Range and Accuracy

| Reading Range | Frequency Range | Accuracy |
|------------------|-----------------|------------|
| 0.1 - 100 KΩ cm | 13-100 Hz | ± (0.1+1%) |
| 100 - 1000 KΩ cm | 13-100 Hz | ± (1+1%) |

Applications

- Performance-based quality control of concrete
- Estimation of chloride diffusion of concrete
- Service life design of concrete structures

Features

Software

- Accurate data (±2%)
- Variable frequency (13 - 100 Hz)
- Automatic report generation
- Free user-friendly PC software

Hardware

- Optional hand-held probe
- Fast measurements (8 measurements < 15s)
- Four-channel four-probe surface resistivity meter

Technical Specifications

Single Measurement Time
1.5 seconds

Testing Time (8 measurements)
<15 seconds

Measurement Channels
4

Frequency
13 - 100 Hz

Standards
AASHTO T358

Software
Free PC program

