

Rapid Chloride Permeability Test (RCPT)



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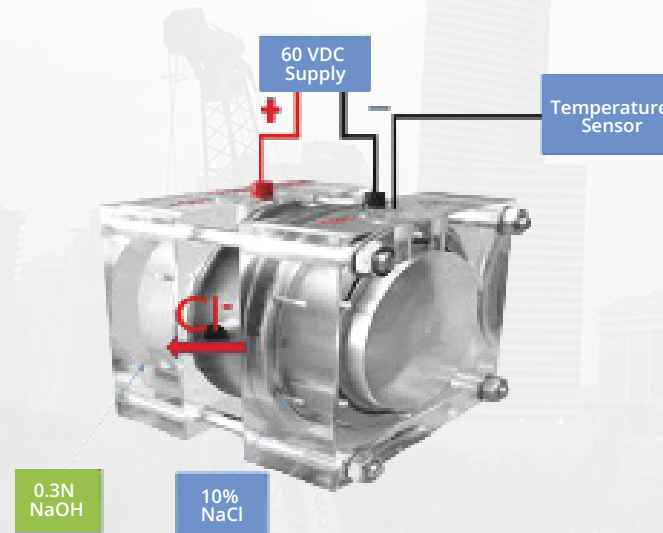
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The Rapid Chloride Permeability Test is a widely recognised method for evaluating the ability of concrete to resist chloride ion penetration. A saturated concrete specimen, typically 100 mm in diameter and 50 mm thick, is placed in a test cell with reservoirs on either side. An electrical potential of 60 V DC is applied across the cell, initiating ion migration.

The test measures the total charge passed through the specimen over a 6-hour period, providing a quantifiable indicator of concrete permeability and durability.

ELE's RCPT apparatus conforms to ASTM C1202 and offers a reliable and efficient solution for laboratories and quality control settings.



Key Features

- Measures chloride ion penetrability of concrete using a 60 V DC electric field
- 12-channel testing unit enables simultaneous testing of multiple specimens
- Charge calculation as per ASTM C1202 through automatic current logging every 30 minutes
- Short circuit protection per channel
- Compatible with Windows 11
- Compact and user-friendly interface



Specifications

Voltage Rating:	60 V DC
Voltage Accuracy	±0.1 V at 60 V
Current Accuracy:	±0.5% from 1 to 500 mA
Max Current Protection:	500 mA per channel
Temperature Accuracy:	±1°C at 20–25°C
Temperature Range:	up to 90°C
Channels:	12 (parallel testing)
Data Logging:	Every 30 minutes, automatic charge computation
Connectivity:	Serial PC interface / USB
Power Supply:	180–220 V AC, 50 Hz

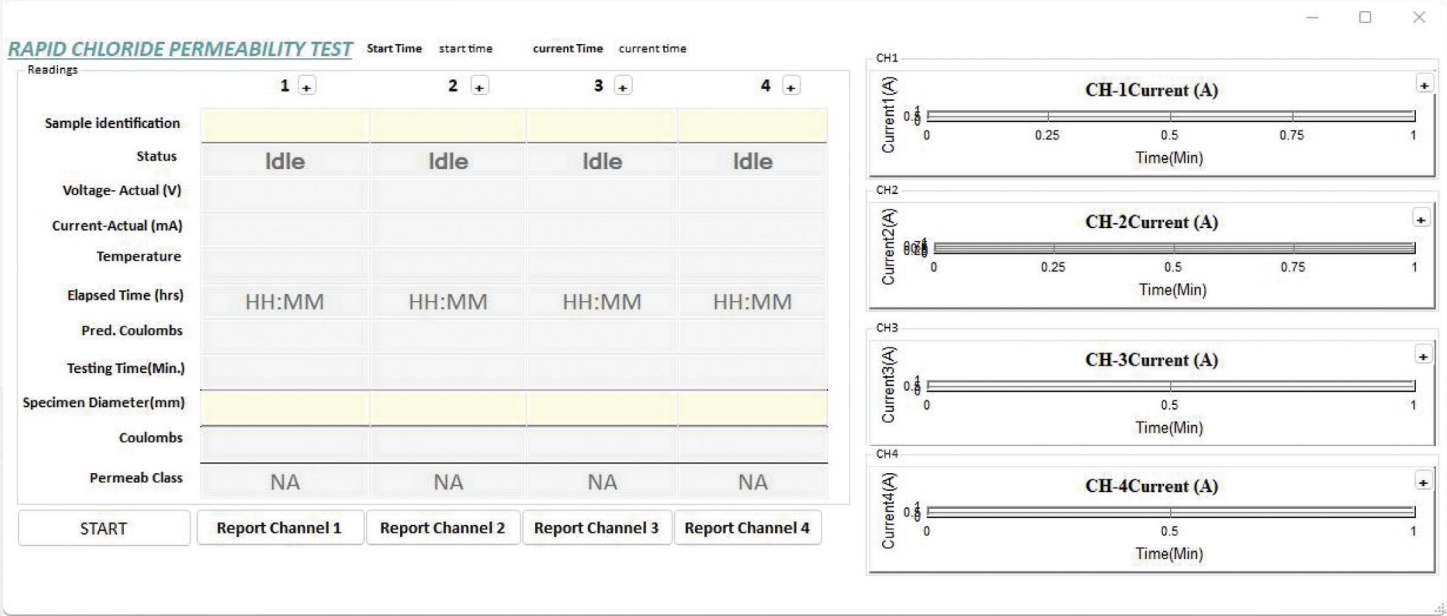
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Software Features

- Real-time graphical plotting: Current (A) vs Time (min)
- Independent report generation for each testing channel
- Export data to Excel-compatible formats
- Test monitoring and logging for efficient data analysis

Applications

- Evaluation of concrete durability in chloride-rich environments
- Quality assurance and quality control of concrete mixes
- Service life prediction of concrete structures
- Performance-based assessment of chloride resistance



Benefits to Users

- Fast, repeatable testing procedure
- Enables predictive maintenance for infrastructure
- Essential for concrete exposed to aggressive environments
- Meets international testing standards

Ordering Information

Rapid Chloride Permeability Test (RCPT)	35-4100/01
RCPT Test cell	35-4100/10

Permeability Classification (as per ASTM C1202)

Coulombs Passed	Permeability Class	Typical Application
>4000	High	High w/c > 0.5
2000–4000	Moderate	w/c = 0.4–0.5
1000–2000	Low	w/c < 0.4
100–1000	Very Low	Latex-modified concrete
1000–2000	Negligible	Polymer concrete

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