CHLORIDE ION PENETRATION METER

This test method allows concrete to be evaluated in terms of chloride permeability, this parameter is essential as it in?uences concrete durability.

The test is performed applying a voltage difference between the ends of a cylindrical specimen, one end is the negative and is immersed in a sodium chloride solution, the other is the positive and is in a sodium hydroxide solution.

Testing procedure to ASTM and AASHTO

While keeping 60 VDC difference between the specimen ends, current (Ampere) transmitted through the specimen is accurately measured over time calculating the total charge (Coulomb). This value relates to the specimen resistance to chloride ion penetration.

In accordance with the Standards indications, starting from the measured total charge, the instrument provides qualitative indications of the chloride ion penetrability level (from High to Negligible).

Two test cells are available depending on the specimen dimensions:

58-E5220/A1

Complete test cell to ASTM and AASHTO suitable for concrete specimen dia. 100 mm x 50 mm length. It includes 2 heads and cables, 1 temperature probe, 4 tie rods for cells tightening, 2 gaskets, 1 rigid plastic sleeve for hydraulic seal.

58-E5220/A2

Complete test cell to ASTM and AASHTO suitable for concrete specimen dia. 100 mm x 200 mm length. It includes 2 heads and cables, 1 temperature probe, 4 tie rods for cells tightening, 2 gaskets, 2 rigid plastic sleeves with 4 internal tie rods for hydraulic seal.

Testing procedure to NT BUILD 492

This test method requires to adjust the voltage difference starting from 30 VDC depending on the transmitted current.

The CI-METER allows continuous voltage adjustment from 5 to 70 VDC. Suggested voltages and test durations are pre-set in the instru? ments to drive the user to the correct test execution.

For this test method, the following kit is required:

58-E5220/A3

Migration set up kit to NT BUILD 492 for simultaneous testing of up to 3 specimens. It includes: Transparent plastic tank

3 specimen holders with stainless steel support, plastic spacers, electrodes (+ and -), perforated grids, stainless steel clamps, rubber sleeves, cables

1. temperature probes

Test cell for chloride ion penetration meter

Two CI-METER models are available:

58-E5214

for simultaneous test of up to 4 specimens

58-E5218

for simultaneous test of up to 8 specimens

CHLORIDE ION PENETRATION METER

SPECIFICATION

4 or 8 specimens simultaneous testing (see the models) Each channel is independent

Programmable test duration

Adjustable sampling rate (starting from 1 minute)

Continuously variable voltage difference from 5 to 70 VDC independent for each channel. Voltage accuracy better than +/- 0.1V, resolution 0.01 V

Continuous current measurement with accuracy +/- 1 mA, resolution 0.1 mA

Continuous temperature measurement with PT100 probe, accuracy +/- 1°C, resolution 0.1°C Testing data displayed in numerical and graphical mode

7” color display with capacitive touchscreen 8 GB internal memory

USB port for data export/storage on external memory (USB pen drive) LAN port for PC connection

RS 232 serial port for PC or serial printer connection

Friendly interface with pre-set test routines to the main Standards plus custom procedures

Dimensions and weights:

Instrument: (l x w x h) 503 x 330 x 164 mm, 11.5 kg

Cell 58-E5220/A1: (l x w x h) 200 x 150 x 150 mm, 3.5 kg Cell 58-E5220/A2: (l x w x h) 350 x 150 x 150 mm, 5 kg

Migration set up kit 58-E5220/A3: (l x w x h) 380x270x280 mm, 10 kg

STANDARDS

- ASTM C1202
- AASHTO T277
- ASTM C1760
- NT BUILD 492

FEATURES

- Double version: model with 4 or 8 independent channels
- Wide touch screen color display
- Programmable test duration and adjustable measuring rate starting from 1 minute
- Continuously variable voltage difference from 5 to 70 VDC independent for each channel
- Unlimited data storage on internal 8 GB memory

ACCESSORIES

58-E0052/1

Vacuum saturation apparatus. 230V/50-60Hz/1ph

58-E0052/1Z

Vacuum saturation apparatus. 110V/60Hz/1ph

58-E5220/A1

Complete test cell to ASTM and AASHTO suitable forconcrete specimen dia. 100 mm x 50 mm length. It includes 2 heads and cables, 1 temperature probe, 4 tie rods for cells tightening, 2 gaskets, 1 rigid plastic sleeve for hydraulic seal.

58-e5220/a3

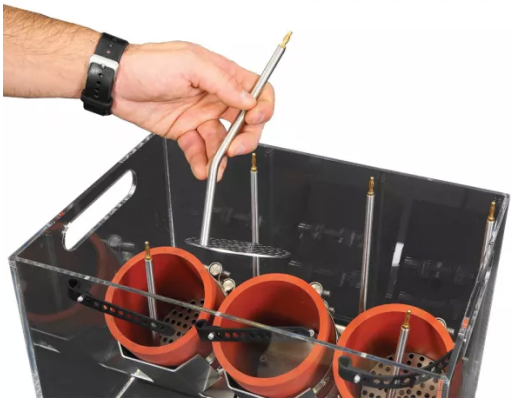
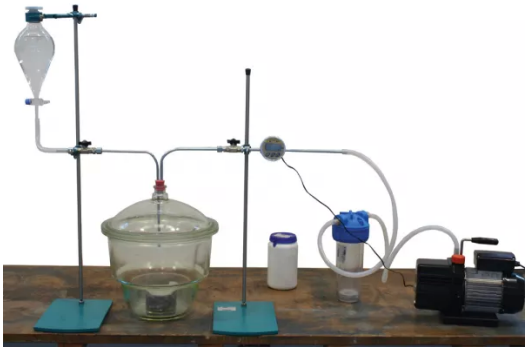
Migration set up kit to NT BUILD 492 with 3-place rack suitable for simultaneous testing of up to 3 specimens

ORDERING CODE

58-E5214

4-channels apparatus for determination of concreteability to resist to chloride ion penetration. - Conforming to ASTM C1202, C1760, AASHTO T277 and NT BUILD 492 - Model for 4 cells to run up to 4 tests simultaneously.

58-E5218

8-channels apparatus for determination of concreteability to resist to chloride ion penetration. - Conforming to ASTM C1202, C1760, AASHTO T277 and NT BUILD 492 - Model for 8 cells to run up to 4 tests simultaneously

CHLORIDE METER