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Rapid Chloride Permeability Tester ZI 2064

Standards:

Specification:



Labtest offers rapid chloride permeability test apparatus. Rapid Chloride Permeability Test equipment (RCPT) has multi-port testing facilities is designed to test concrete samples of 100mm diameter with 50mm thickness for concrete ion permeability test. All the easy connections are ready to use chloride ion permeability test instrument. Customer can test up to three samples at a time as per ASTM C1202 - electrical indication of concrete's ability to resist chloride ion penetration, AASHTO T 277 - electrical indication of concrete's ability to resist chloride ion penetration (Rapid Chloride Permeability Test) and ASTM C 1760 - standard test method for bulk electrical conductivity of hardened concrete.

All the cells are provided with connecting rubber gasket and washers for achieving leak proof. Corrosion of reinforcing steel due to chloride ingress is one of the most common environmental attacks that lead to the deterioration of concrete structures. Concrete contains flying ash or silica fumes are less permeability are less permeable to deleterious elements and thus are more durable than conventional concretes. Corrosion-related damage to bridge deck overlays, parking garages, marine structures, and manufacturing plants results huge amount annually on repairs, this durability problem has received widespread

attention in recent years because of its frequent occurrence and the associated high cost of repairs. Chlorides penetrate crack-free concrete by number of mechanisms: capillary absorption, hydrostatic pressure, diffusion, and evaporative transport. Mainly diffusion occurs when the concentration of chloride on the outside of the concrete member is greater than on the inside. This results in chloride ions moving through the concrete to the level of the rebar. When this occurs in combination with wetting and drying cycles and in the presence of oxygen, conditions are right for reinforcement corrosion. The rate of chloride ion ingress into concrete is primarily dependent on the internal pore structure.

The pore structure in turn depends on other factors such as the mix design, degree of hydration, curing conditions, use of supplementary cementitious materials, and construction practices. Therefore, wherever there is a potential risk of chloride induced corrosion, the concrete should be evaluated for chloride permeability. The rapid chloride-ion permeability test (rcpt) is designed to assess the resistance of concrete to the penetration of chloride ions, an indicator of its permeability. Complete with tools kit.

RCPT apparatus is a fully self-contained test device complete for Rebar manufacturers, civil engineering laboratories and R&D purpose as per ASTM C1202, AASHTO T277 and ASTM C 1760.

Rating of chloride permeability of concrete according to the rcpt test apparatus is as below:

Rating	Typical concrete type permeability coulombs
High	>4000 high w-c ratio (> 0.6) conventional PC concrete
Moderate	2000 to 4000 moderate W-C ratio (0.40 to 0.50) conventional PC concrete
Low	1000 to 2000 low W-C ratio (< 0.40) conventional PC concrete

Very low	100 to 1000 latex-modified concrete, internally sealed concrete
Negligible	< 100 polymer-impregnated concrete, polymer concrete

Complete rapid chloride ion permeability tester includes the following items:

- RCPT test apparatus with 4 port (230~250 V AC power supply)
- Plexiglass chambers - 4 pairs
- 300mm vacuum desiccator
- Vacuum pump with gauge
- Moisture trap
- Temperature probe
- Tests sealant + gun acrylic sealer + brush