Corrosion Resistance of NATCEM 35, PM Cl and the Control Concrete.

TEST PROGRAMME PREPARED BY:
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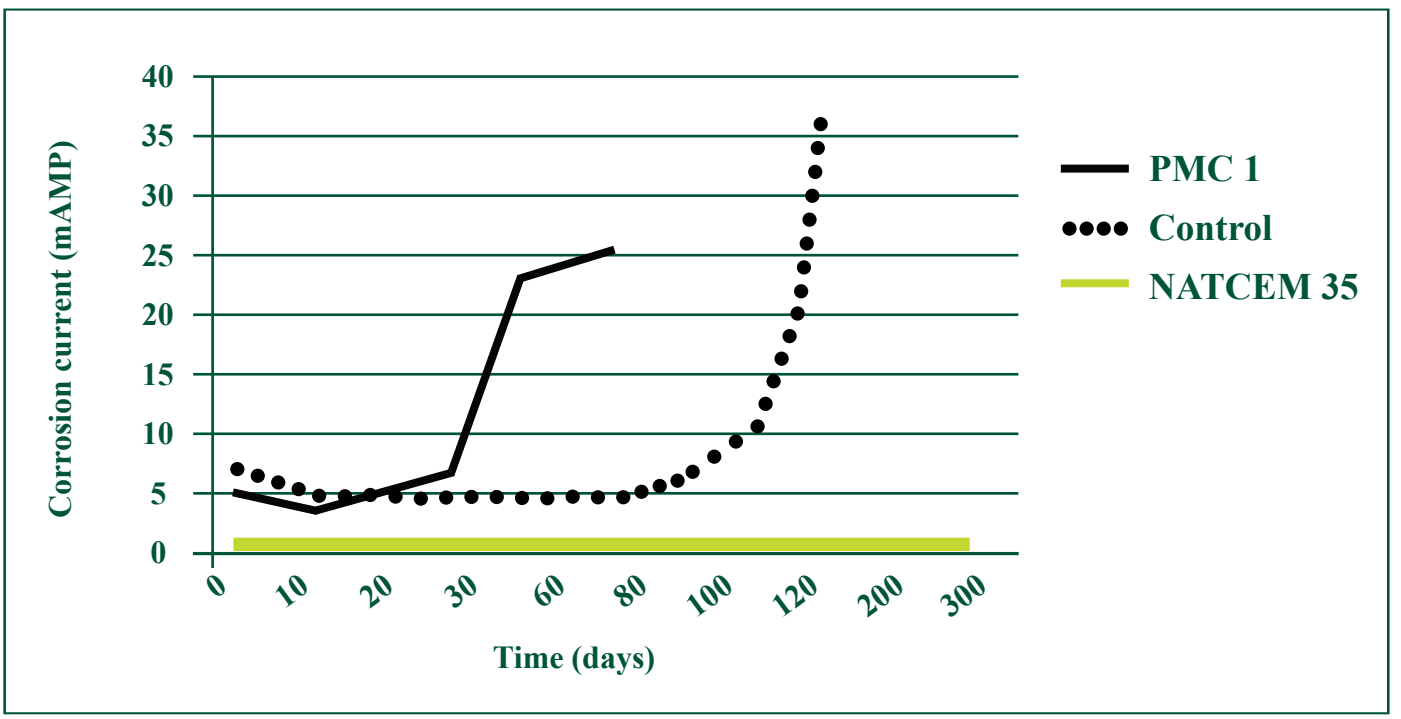

Corrosion Resistance Test

The corrosion resistance test was carried out on cylindrical specimens and with the steel embedded in the centre of the cylinder. This configuration is the one used at Leeds University CEMU to carry out evaluation of the resistance of concrete to chloride corrosion. After preparing the specimens they are cured for four weeks at 20°C and 100% RH. At the end of this period the specimens are immersed in the tanks contaning 5% NaCl solution and exposed to accelerated corrosion by applying a potential difference of 3V. The corrosion current is monitored at close intervals.

The tests carried out in this experiment were conducted for 300 days. The graph shows the corrosion current versus time for the 55Mpa Control concrete and for comparitive purposes two other materials i.e. NATCEM 35 and a commercial formulation of a repair material consisting of a polymer modified cementitious mortar.

It can be clearly seen that the NATCEM 35 was very effective in stopping corrosion, in fact the corrosion current up to 300 days was zero indicating that movement of Cl ions was not possible even under a potential difference.

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