

NEW ELECTROCHEMICAL REHABILITATION ROAD SHOW

To address the matter of steel reinforcement corrosion in concrete (said to be the single largest cause of deterioration of the UK's infrastructure) and to explain the various remedial options available, the UK **Concrete Repair Association (CRA)** has just produced an entirely new Road Show presentation entitled 'Electrochemical rehabilitation of steel reinforced concrete structures'.

The environment provided by good quality concrete, in which steel reinforcement exists, is said to be 'passive', whereby a highly dense and protective oxide film forms on the steel's surface. The concrete pore solution is highly alkaline owing to the presence of hydroxides produced during hydration reactions. Any small breaks in this protective oxide film are constantly repaired by the hydroxyl ions.

Furthermore, the cover concrete acts as a physical barrier to aggressive agents. If, however, the alkalinity of the surrounding concrete is reduced, such as by neutralisation with atmospheric carbon dioxide or by depassivating ions such as chlorides, corrosion of the reinforcement can occur.

The two primary reasons are *carbonation* (which leads to the loss of concrete alkalinity) and *chloride attack* primarily from de-icing agents or seawater (which break down the protective oxide film of the steel reinforcement). The presence of moisture and oxygen can cause expansive corrosion up to eight times greater than the original steel product. These expansive forces are sufficient to cause concrete cracking, delamination and eventually spalling.

The new CPD certificated audio-visual Road Show is specifically designed for specifiers, contractors and owners of structures/buildings containing concrete components, who need a brief explanation of the materials available, the methods of installation and the critical aspects to be taken into account when looking at specific projects.

The programme, about 45 minutes in duration, covers design considerations and outlines possible electrochemical remedial solutions, such as realkalisation, chloride extraction, cathodic protection/prevention and sacrificial systems, as well as recent developments.

Presentation, normally undertaken by specialist CRA contractor and CRA product manufacturer members, is free-of-charge to professional organisations, at their offices, at a mutually convenient date and time (normally lunch periods), provided a minimum of four delegates are able to attend.

For more information, interested organisations should contact Laurie Perkis on 023 8073 8953, or by email at: initialcontacts@btinternet.com



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