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Study of Corrosion in Structures due to Chloride Infiltration

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Abstract : Corrosion in reinforcing steel is the leading cause for deterioration in concrete structures. It is an electrochemical process which leads to volumetric change in concrete and causes cracking, delamination and spalling. The objective of the study is to provide a rational method to estimate the probable chloride concentration at the reinforcement level for a known surface chloride concentration. The paper derives the formulation of design charts to aid engineers for quick calculation of the chloride concentration. Furthermore, the paper focuses on comparison of durability design against corrosion with American, European and Indian design standards.

Keywords : chloride infiltration, concrete, corrosion, design charts
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