

Review Of Deemed-to-satisfy Provisions In Australian Standards By Using Fully Probabilistic Model: Durability Of Reinforced Concrete Structures Exposed To Chloride

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The current system in Australian Standards for specifying and ensuring the durability of new concrete structures is a prescriptive type. In prescriptive specifications, adequate durability is assumed to be guaranteed indirectly by ensuring compliance with limiting values for minimum characteristic compressive strength, concrete composition (i.e. minimum cement content, maximum water/cement ratio, cement type, maximum chemical content in concrete) and construction details (i.e. minimum initial curing requirement and minimum concrete cover). These parameters define the resistance of a concrete and construction element to withstand different actions from the surrounding environment. The environmental action is characterized through exposure classes (i.e. A, B1, B2, C1 and C2). The purpose of this paper is to review the prescription given in Australian Standards in relation to the reliability ranges regarding the chloride-induced depassivation of rebar. The reliability analysis are carried out using the full probabilistic model for chloride-induced corrosion presented in *fib* Bulletin 34 and *fib* Model Code for Concrete Structures 2010.