

# **Chloride Diffusivity of Self-Compacting Concrete With Limestone Powder**

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ID. 1035011

A Thesis Submitted to  
Kochi University of Technology  
in Partial Fulfillment of The Requirements for  
The Degree of Master of Engineering

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January 2001

## Abstract

This paper investigated on the chloride ion movement in self-compacting concrete. The empirical formulas for chloride diffusion coefficient, which is a function of water-to-cement ratio, can be examined differently from a conventional concrete. The mix proportions were separated into two types; self-compacting concrete and normal concrete blended with limestone powder. The soaking test and fogging test were done in order to match with the actual structures in the seawater and the seashore area, respectively. Bleeding was also taken into consideration of chloride content along the depth of a specimen. In this set of experiment, concrete blended with limestone powder showed the decrease of chloride diffusivity for the concrete of the same water-cement. Bleeding effect was shown the different of the chloride concentration at surface between top and bottom part of a specimen, which is concerned with many parameters. The concept of total chloride ion concentration at inner surface was formulated with time dependence, which can be obtained an appropriate value for the time of consideration.