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Brief Introduction to the Book

Concrete carbonation decreases durability of concrete. Therefore, quantitative evaluating method for the amount of CO₂ absorption through carbonation should be considered under the condition that carbonation does not affect durability of RC structure. This study proposed a quantitative evaluating method that overcomes the limitation of the traditional qualitative evaluation, which is carried out using the naked eye with respect to the color change boundary by spraying indicator. Carbonation depth becomes the basic data for estimating the residual life and durability of RC structures. To achieve this objective, the quantitative change of Ca(OH)₂ and CaCO₃ for each depth in concrete according to the carbonation process is measured using TG/DTA in order to propose a quantitative method and an evaluation basis. Another goal is to propose evaluating method of CO₂ absorption in the air through carbonation and how to evaluate LCCO₂ (emission – absorption of CO₂).

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