Development of a Simple Non-destructive Evaluation Method for the Permeability of Cover Concrete

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The quality of cover concrete has a considerable effect on the durability of reinforced concrete structures. Therefore, non−destructive methods of evaluating the permeability of cover concrete have become increasingly important in recent years. Indeed, various non−destructive testing methods of evaluating the air permeability or water permeability have been proposed. In most of these methods, however, a large power supply should be prepared to operate test equipment. It follows that a time−consuming on−site preparation is needed before carrying out the test in the field. In this study, a new evaluation method that is simple and easily applicable to the concrete structures has been proposed. Using this method, it is possible to easily evaluate the cover concrete quality by means of simple equipment for spraying a small amount of water and a battery−powered hand−held device.