

5. Degradation Prediction Model of Concrete due to Sulfuric Acid Attack (Part 2)

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In this study, the experiment on the degradation of the concrete by the sulfuric acid dipping was carried out for the purpose of grasp of degradation characteristic in the sulfuric acid environment and construction of degradation prediction model. Degradation prediction model in the sulfate corrosion environment was proposed based on the test result. In the degradation prediction model, it made it the form which added the generation of the ettringite by generation of the two water gypsum by the reaction between sulfuric acid and cement hydrates, two water gypsum and reaction of aluminic acid of three lime to the diffusion equation. It was confirmed that proposed analytical model could simulate test result well.

Key words : sulfuric acid, degradation prediction, ettringite, sewerage