

### **Evaluation of Cover Spalling Behavior at Reinforced Concrete Viaducts**

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The fracture of the cover concrete at the reinforced concrete (RC) structures was caused by the expansion of reinforced-bar corrosion. In order to understand the mechanism of the fracture of the cover concrete, the cross-section shape of a corroded rebar was evaluated by using the proposed equipment. The measured data indicated that the fracture of the cover concrete by the corrosion of rebars was expressed by one-directional loading on the rebar at cover concrete. Finally, we conducted an experiment and non-linear finite element analysis in order to evaluate the effect of the rebar spacing and the cover concrete thickness on the shape of cover concrete fracture and the amount of corrosion.