A STUDY ON EFFECTIVENESS OF NEW CORROSION MONITORING SENSOR APPLIED FOR REPAIRED RC MEMBER

Rahmita Sari Rafdinal
Maintenance Engineering Group, P.S. Mitsubishi Construction Co. Ltd. : Doctor of Engineering

Astuti, Pinta
Department of Civil and Structural Engineering, Kyushu University : Doctoral Program

濱田, 秀則
九州大学大学院工学研究院社会基盤部門 : 教授

Sagawa, Yasutaka
九州大学大学院工学研究院社会基盤部門 : 准教授

他

出版情報：Advances in Construction Materials Proceedings of the ConMat'20, 2020-08-27. 日本コンクリート工学会
バージョン：
権利関係：

A STUDY ON EFFECTIVENESS OF NEW CORROSION MONITORING SENSOR APPLIED FOR REPAIRED RC MEMBER

Rahmita Sari Rafdinal[1], Pinta Astuti[2], Hidenori Hamada[3], Yasutaka Sagawa[4], and Yamamoto Daisuke[5]

[1] Doctor of Engineering, Maintenance Engineering Group, P.S. Mitsubishi Construction Co. Ltd., 2-5-24 Harumi, Chuo-ku, Tokyo, Japan, 104-8215
[2] Doctoral Student, Department of Civil and Structural Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka, Japan, 819-0395, pinta.astuti@doc.kyushu-u.ac.jp / pinta.astuti@hotmail.com
[3] Professor, Department of Civil and Structural Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka, Japan, 819-0395
[4] Associate Professor, Department of Civil and Structural Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka, Japan, 819-0395
[5] Technical Officer, Department of Civil and Structural Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka, Japan, 819-0395

ABSTRACT

The Titanium Wire Sensor, 3 mm in diameter was developed as a new reference electrode with the high flexibility to apply and used in corrosion monitoring of a concrete structure. The basic properties, durability, optimum length, and application of wire sensor as corrosion detection in repaired reinforced concrete member were tested and compared with ordinary commercial reference electrodes. From the test results, it was concluded that Titanium Wire Sensor is working as corrosion monitoring sensor in the areas wherein it is embedded. In addition, depending on the purpose and range of the measurement, the length of the titanium wire sensor can be changed efficiently over 30 mm. All in all, compared with other commercial reference electrodes, the Titanium Wire Sensor is superior both in economic efficiency and construction feasibility.

Keywords: Titanium Wire Sensor, Corrosion monitoring, Reference electrode

Rahmita Sari Rafdinal, Doctor of Eng
P.S. Mitsubishi Construction Co. Ltd.,
2-5-24 Harumi, Chuo-ku, Tokyo, 104-8215
Japan

Email: s-ramita@psmic.co.jp
Tel: +81-70-3517-7745