

Corrosion degradation and repair of a concrete bridge

Materials and Structures, May 2006, Volume 39, Issue 4, pp 471-478.

Authors: A. Guettala, A. Abibsi.

Abstract

Reinforced concrete corrosion has been widely reported in the literature over the last two to three decades even though certain cement concrete works remain in excellent state after more than one century of exposure to severe climatic conditions. This type of damage is responsible for the huge financial costs spent each year on the repair of deteriorated structures all over the world. This article describes the diagnosis carried out on the degradation of a reinforced concrete bridge put into service only 20 years back as well as the follow up repair. The stages of repair and reinforcement are discussed as well as its state after repair. The processes leading to damage and necessary repair strategies and procedures to avoid further damage under the given environmental conditions were obviously not understood by the designers of the repair works. It's also shown in this study the importance of maintenance and regular inspection of a given cement concrete work or the lack of it as is the case.

Keywords Diagnosis, Degradation, Design, Corrosion, Repair

Link <http://link.springer.com.www.sndl1.arn.dz/article/10.1007/s11527-005-9046-z>