

# Committee Report: JCI-TC182A

## Technical Committee on the Inspection, Diagnosis, and Repair Method of the Existing Concrete Structure Aiming at Preventive Maintenance

### 委員会報告：JCI-TC182A

既設コンクリート構造物の予防保全を目的とした調査・診断・補修に関する研究委員会

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### Abstract

The preventive maintenance of concrete structures, which considers appropriate measures before any apparent deformation, is realized from the viewpoint of longevity and life-cycle cost (LCC). However, these measures are rarely implemented, owing to the lack of concrete procedures and systematization of inspection, diagnosis, and repair methods in the early stages of deterioration. For dissemination of preventive maintenance, the technical committee targeted conventional concrete structures, without apparent visible deformation, in their early stages of deterioration. They conducted inspections, diagnosis, and repair methods, and also analyzed case studies and proposed procedures associated with it.

### 1. Introduction

In the maintenance of concrete structures, several studies and applications have been conducted on corrective maintenance strategies, primarily in the “acceleration” or “deterioration” stage, considering the urgency of taking measures against deteriorating structures. In contrast, when considering maintenance from the viewpoint of longevity and life-cycle cost (LCC), the significance and effectiveness of preventive maintenance, which implements taking actions before the occurrence of deformation, is becoming widely recognized.

However, presently, it cannot be stated that preventive maintenance, which conducted repairs before the actual deformation becomes apparent, is often implemented. One of the reasons is because the information and

evaluation methods of inspection, diagnosis, and repair methods, in the early stages of deterioration, have not been systematized, and concrete procedures for carrying out preventive maintenance have not been outlined. In recent years, inspection and repair methods that focus on preventive maintenance have been developed, and is considered extremely important to understand their applicability and problems of performing preventive maintenance.

Under such circumstances, a “Technical Committee on the inspection, diagnosis, and repair methods of conventional concrete structures targeting preventive maintenance” was established in FY2018 and has been carrying out activities for two years. This committee focuses on the maintenance of conventional.....