
**Structural intervention of
existing concrete structures using
cementitious materials —**

**Part 1:
General principles**

*Intervention structurelle sur les structures en béton existantes
utilisant des matériaux cimentaires —*

Partie 1: Principes généraux





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Foreword

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A list of all parts in the ISO 5091 series can be found on the ISO website.

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Introduction

As a repairing and strengthening method, attaching of a cementitious material layer to surface of existing concrete structures has been widely accepted. Since the cementitious layer does not have enough tensile strength, tension reinforcement is generally placed in the cementitious layer. There are two types of attaching. For the first way, the cementitious layer is attached either on the top surface or bottom surface of horizontal concrete members, especially slabs, while, for the second way, the cementitious layer is attached to jacket vertical concrete members, especially columns. There has not been any ISO standard on design, execution and maintenance for this method with attaching a cementitious layer. The ISO 5091 series serves as the first ISO standard for the intervention by attaching a cementitious material layer with tension reinforcement inside.

At the same time, the ISO 5091 series is the first ISO standard developed for a specific intervention method, which conforms to the umbrella code, ISO 16311, especially ISO 16311-3 and ISO 16311-4.

The ISO 5091 series consists of four parts. ISO 5091-1 provides the issues common to all three parts, while ISO 5091-2, 3 and 4 provide the issues specific to each attaching way of cementitious material layers.

The ISO 5091 series can serve as a practical standard for construction industry, such as client, design consultant and general contractor, to apply the structural intervention with externally attached cementitious layer. Additional technical information, which is not provided explicitly in the ISO 5091 series, needs to be provided in each application case with consideration of the provisions of the ISO 5091 series.