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**Maintenance and repair of concrete  
structures —**

**Part 4:  
Execution of repairs and prevention**

*Entretien et réparation des structures en béton —  
Partie 4: Exécution des réparations et prévention*



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# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Structural stability during execution of repairs</b> .....	<b>3</b>
<b>5 General requirements</b> .....	<b>4</b>
<b>6 Methods of prevention and repair</b> .....	<b>4</b>
<b>7 Preparation of substrate</b> .....	<b>4</b>
7.1 General.....	4
7.2 Preparation of concrete.....	4
7.3 Preparation of reinforcement.....	14
<b>8 Application of products and systems</b> .....	<b>14</b>
8.1 General.....	14
8.2 Structural strengthening to restore member capacity —methods.....	15
8.3 Defects caused by reinforcement corrosion.....	18
<b>9 Quality control</b> .....	<b>19</b>
9.1 General.....	19
9.2 Quality control tests and observations.....	19
<b>10 Maintenance following completion of remedial action</b> .....	<b>20</b>
<b>11 Health, safety, and the environment</b> .....	<b>20</b>
<b>Annex A (informative) Commentary on the Execution of Repairs and Prevention</b> .....	<b>31</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 7, *Maintenance and repair of concrete structures*, the secretariat of which is held by KATS. ISO 16311 consists of four parts:

- *Part 1: General principles*
- *Part 2: Assessment of existing concrete structures*
- *Part 3: Design of repairs and prevention*
- *Part 4: Execution of repairs and prevention*

## Introduction

This part of ISO 16311 defines and specifies site application of products and systems and quality control of the work. To be operable, this part of ISO 16311 needs a National Annex or a reference to where national complementary provisions are given. This part of ISO 16311 can also be applied on specific projects where a project specification will supplement the standards in lieu of a National Annex applicable in the place of use.

The execution of maintenance and repair of concrete structures is an important and integral part of the complex process of protection and repair, and this part of ISO 16311 specifies how it shall be carried out. The specifications in this part of ISO 16311 are part of the definition of the intended use for the relevant products and systems. The execution shall be in accordance with this series of International Standards: ISO 22966, ISO 22965-1, ISO 22965-2, ISO 2394, and any other relevant ISO and National Standards valid in the place of use.

This part of ISO 16311 incorporates rules for the use of maintenance and repair materials and systems that are covered by International Standards. Until International Standards are developed, the standards cited in the National Annex (often regional or national standards) for materials and systems shall be followed.

Maintenance and repair methods applying traditional concrete construction work are listed in this part of ISO 16311, but reference is made to relevant standards.

Maintenance and repair methods applying electrochemical methods, e.g. cathodic protection, realkalisation of carbonated concrete, and chloride extraction, are listed in this part of ISO 16311, but reference is made to standards or guidelines valid in the place of use.

Maintenance and repair shall be executed according to a project specification including the necessary requirements on remedies, methods, and materials per ISO 16311-3.

This part of ISO 16311 contains an [Annex A](#) which provides guidance and background information to the normative text. The contents of [Annex A](#) are numbered in the same way as the normative text to facilitate reference, but prefixed with “A”.

