INTERNATIONAL STANDARD

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Execution of concrete structures

Exécution des structures en béton

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 22966 was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and prestressed concrete*, Subcommittee SC 3, *Concrete production and execution of concrete structures*.

Introduction

This International Standard applies to the execution of concrete structures to achieve the intended levels of reliability and serviceability that are given in ISO 2394[3] and in standards for the design of concrete structures.

This International Standard has three functions:

— to transfer the requirements set during design from the designer to the constructor, i.e. to be a link between design and execution;

— to give a set of standardized technical requirements for the execution when ordering a concrete structure;

— to serve as a check list for the designer to ensure that he provides the constructor with all relevant technical information for the execution of the structure; see Annex A.

In order to achieve these objectives, it is necessary that the designer prepare a set of documents and drawings giving all information required for the execution of the work in accordance with the plans. This set of documents is in this International Standard referred to as the “execution specification”. This International Standard leaves a number of items open that can be decided by the execution specification.

It is necessary that the execution specification refer to national provisions in areas where these apply.

It is recognized in this International Standard that areas such as detailed requirements for competence of personnel and details related to quality management are within the competence of the member states.

A national annex can refer to national standards approved and published by an ISO member body and that supplement this International Standard; alternatively, the supplementing rules can be given directly in the national annex.

Execution of concrete structures

1 Scope

This International Standard gives common requirements for the execution of concrete structures and applies to both *in-situ* works and construction using prefabricated concrete elements.

This International Standard requires that the execution specification state all the specific requirements relevant to the particular structure.

This International Standard is applicable to temporary as well as permanent concrete structures.

Additional or different requirements can be considered and, if required, given in the execution specification when using

— lightweight aggregate concrete;

— other materials (e.g. fibres) or constituent materials;

— special technologies/innovative designs.

This International Standard does not apply to the following:

a) concrete members used only as equipment or construction aids for the execution;

b) specification, production and conformity of concrete;

c) production of precast concrete elements made in accordance with product standards;

d) safety and health aspects of execution, or third-party safety requirements;

e) contractual issues or responsibilities for the identified actions.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6934 (all parts), *Steel for the prestressing of concrete*

ISO 6935-1, *Steel for the reinforcement of concrete — Part 1: Plain bars*

ISO 6935-2, *Steel for the reinforcement of concrete — Part 2: Ribbed bars*

ISO 15630-1, *Steel for the reinforcement and prestressing of concrete — Test methods — Part 1: Reinforcing bars, wire rod and wire*

ISO 17660-1, *Welding — Welding of reinforcing steel — Part 1: Load-bearing welded joints*

ISO 17660-2, *Welding — Welding of reinforcing steel — Part 2: Non-load-bearing welded joints*

ISO 22965-1, *Concrete — Part 1: Methods of specifying and guidance for the specifier*

ISO 22965-2, *Concrete — Part 2; Specification of constituent materials, production of concrete and compliance of concrete*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
back-propping
propping installed at levels below the slab that supports the falsework in order to distribute the load to suitable support

3.2
chair for reinforcement
device used to secure the position between reinforcement layers, e.g. supporting top reinforcement in a slab

3.3
construction works
everything that is constructed or results from construction operations

NOTE The term covers both building and civil engineering works. It refers to the complete construction comprised of both structural and non-structural components.

3.4
constructor
organization executing the works

3.5
erection specification
documents covering all drawings, technical data and requirements required for the safe erection of precast elements

3.6
execution
all activities carried out for the physical completion of the work, i.e. procurement, scaffolding, formwork, reinforcing, concreting, curing, erection of precast elements, etc., and the inspection and documentation thereof

3.7
execution class
classified set of requirements specified for the execution of the works as a whole or an individual component

3.8
execution specification
documents covering all drawings, technical data and requirements necessary for the execution of a particular project

NOTE The execution specification is not one document but signifies the total sum of documents required for the execution of the work as provided by the designer to the constructor and includes the project specification prepared to supplement and qualify the requirements of this International Standard, as well as referring to the national provisions relevant in the place of use.

