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## **Guidelines for the simplified design of structural reinforced concrete for buildings**

*Lignes directrices pour la conception simplifiée du béton armé pour  
les structures de bâtiments*



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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 15673 was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 5, *Simplified design standard for concrete structures*.

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## Introduction

The aim of this International Standard is to provide rules for the design and construction of low-rise concrete structures of small floor area to be built in the less developed areas of the world. The document is developed for countries that do not have existing national standards. This document shall not be used in place of a national standard unless specifically considered and accepted by the national standard body or other appropriate regulatory organization. The design rules are based in simplified worldwide-accepted strength models. The document is self-contained; therefore actions (loads) and simplified analysis procedures are included, as well as minimum acceptable construction practice guidelines.

The minimum dimensional provisions contained in this document are intended to account for undesirable side effects that will require more sophisticated analysis and design procedures. Material and construction provisions are aimed at site-mixed concrete as well as ready-mixed concrete, and steel of the minimum available strength grades.

The earthquake-resistance provisions are included to account for the fact that numerous underdeveloped regions of the world occur in earthquake-prone areas. The earthquake resistance is based upon the employment of structural concrete walls (shear walls) that limit the lateral deformations of the structure and provide for its lateral strength.

The document contains provisions that can be modified by the national standards body due to local design and construction requirements and practices. The specifications that can be modified are indicated using [*boxed values*]. The authorities in each member country are expected to review the "boxed values" and may substitute alternative definitive values for these elements for use in the national application of the document.

A great effort was made to include self-explanatory tables, graphics, and design aids to simplify the use of the document and provide foolproof procedures. Notwithstanding, the economic implications of the conservatism inherent in approximate procedures as a substitution to sound and experienced engineering should be a matter of concern to the designer who employs the document, and to the owner who hires him.