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# Steel structures — Execution of structural steelwork —

## Part 1: General requirements and terms and definitions

*Structures en acier – Exécution des charpentes et ossatures en acier —*

*Partie 1: Exigences générales et termes et définitions*

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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.

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 167, *Steel and aluminium structures*.

This first edition cancels and replaces ISO 10721-2:1999, which has been technically revised.

A list of all parts in the ISO 17607 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.


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# Introduction

Specific requirements for the achievement of structures that are optimal with respect to safety, the state of the economy, development and general values of a nation are given in the appropriate regional or national standards, if they exist.

Many nations do not have their own standards for structural steelwork. Some refer to other national or regional standards. Some permit the project's standard to be selected by the owner, designer or constructor of the structure. Some do not require any standards to be followed.

The ISO 17607 series of standards on the execution of structural steelwork was developed to serve as a means to provide a set of requirements and guidance for projects that are constructed without a governing regional or national standard. The ISO 17607 series can also serve to reduce trade barriers.

Additional requirements to be addressed in the execution of structural steelwork, as structures or as fabricated components, can be found in the other parts of the series:

— ISO 17607-2 (Steels);

— ISO 17607-3 (Fabrication);

— ISO 17607-4 (Erection);

— ISO 17607-5 (Welding);

— ISO 17607-6 (Bolting).

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# Steel structures — Execution of structural steelwork —

# Part 1: General requirements and terms and definitions

## 1 Scope

This document defines general requirements for the execution of structural steelwork for:

— structural steel buildings;

— general structures, designed, fabricated, and erected in a manner similar to buildings with building-like load-resisting elements, e.g. support framing for equipment, tanks, vessels, and pipelines;

— crane-supporting structures;

— typical roadway and pedestrian bridges including those constructed using rolled sections, welded plate girders, or trusses (lattices).

This document applies to structures or fabricated components that are produced from:

— hot-rolled and cold-formed structural steel products up to and including a nominal yield strength of 700 MPa with a thickness of 3 mm and above;

— hot-finished and cold-formed structural steel hollow sections, up to and including a nominal yield strength of 700 MPa, including standard range and custom-made rolled products and hollow sections manufactured by welding.

This document also applies to steel components in composite steel and concrete structures, and in structures combining steel with other materials.

This document defines requirements independent of the type and shape of the steel structure, including structures subjected to fatigue or seismic loading. The requirements are expressed in terms of execution levels.

This document does not define all requirements for other types of fabricated steel structures (e.g. railway bridges, roadway and pedestrian bridges using welded box sections or arch boxes, cable-supported bridges over 100 m span, moving bridges, monorails, steel towers, masts, chimneys, silos, tanks, pipelines, antennae, offshore platforms). However, this document provides general guidance regarding fabrication and erection practices that may be used together with the appropriate ISO, regional or national design standards for such structures.

This document does not cover requirements for the following:

— sheeting;

— fabrication of stainless steels.

This document does not apply to design of steel structures.

NOTE Design is inextricably a part of the design-fabrication-erection sequence, including the application of tolerances, and cannot be considered in isolation.

This document is intended to be used, as appropriate, together with national standards and other documents, observing the provisions in this document concerning such use.

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## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 6707-1, *Buildings and civil engineering works — Vocabulary — Part 1: General terms*

ISO 6707-2, *Buildings and civil engineering works — Vocabulary — Part 2: Contract and communication terms*

ISO 7976-1, *Tolerances for building — Methods of measurement of buildings and building products — Part 1: Methods and instruments*

ISO 7976-2, *Tolerances for building — Methods of measurement of buildings and building products — Part 2: Position of measuring points*

ISO/TR 25901-1, *Welding and allied processes — Vocabulary — Part 1: General terms*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6707-1, ISO 6707-2 and ISO/TR 25901-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

### 3.1 Terms related to general requirements

**3.1.1**
**structure**
organized combination of connected parts designed to carry loads and provide rigidity, redundancy, and structural stability

**3.1.2**
**structural steelwork**
steel structures or fabricated steel components used in *construction works* (3.1.4)

**3.1.3**
**architecturally exposed structural steel**
**AESS**
*structural steelwork* (3.1.2) exposed to view with additional requirements specified to achieve designated aesthetic qualities

**3.1.4**
**construction works**
everything that is constructed or results from construction operations

Note 1 to entry: This term covers both building and civil engineering works. It refers to the complete construction comprising both structural and non-structural components.

**3.1.5**
**constructor**
person or organization executing the *structural steelwork* (3.1.2)

Note 1 to entry: Multiple constructors may be involved in a project.

Note 2 to entry: The term constructor includes fabricator and erector.


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