INTERNATIONAL STANDARD

ISO 13976

Third edition
2016-08-15

Hot-rolled steel sheet in coils of structural quality and heavy thickness

Tôles fortes en acier de construction laminées à chaud en bobines

Reference number
ISO 13976:2016(E)

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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. www.iso.org/directives

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: http://www.iso.org/iso/foreword.html

The committee responsible for this document is ISO/TC 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

This third edition cancels and replaces the second edition (ISO 13976:2005), which has been technically revised.

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Hot-rolled steel sheet in coils of structural quality and heavy thickness

1 Scope

This document applies to hot-rolled carbon/manganese steel sheet in coils of structural quality without the use of microalloying elements. It is generally used in the delivered condition and is intended for bolted, riveted or welded structures. The product is produced on a wide sheet mill.

The product is intended for structural purposes where particular mechanical properties are required.

The steel sheet is produced in a number of grade designations designed to be compatible with differing application requirements.

This document does not cover steels intended for boilers or pressure vessels, or steels designated as commercial quality or drawing qualities, or steels rolled to cold-reduced products, or steels designated as weathering steels, having increased atmospheric corrosion resistance, or those products rolled on a plate mill.

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 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

3 Terms and definitions

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

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

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

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

3.1
microalloying elements
elements such as niobium, vanadium, titanium, etc., added singly or in combination to obtain higher strength levels combined with better formability, weldability and toughness as compared with non-alloyed steel produced to equivalent strength levels

3.2
hot-rolled steel sheet in coils
steel sheet in coil form manufactured through hot-rolling process where the material was heated before rolling to achieve the required sheet thickness and tolerances

Note 1 to entry: The product has a surface covered with oxide or scale resulting from the hot-rolling operation.

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3.3
hot-rolled descaled steel sheet in coils
hot-rolled steel sheet from the surface of which oxide or scale has been removed, commonly by pickling in an acid solution

Note 1 to entry: Descaling can also be performed by mechanical means such as grit blasting. Some increase in hardness and some loss of ductility can result from descaling.

Note 2 to entry: This product is normally supplied oiled.

3.4
mill edge
normal edge produced without any definite contour produced in hot-rolling

Note 1 to entry: Mill edges can contain some irregularities such as cracked or torn edges on thin (feathered) edges.

3.5
sheared edge
normal edge obtained by shearing, slitting or trimming a mill edge product

Note 1 to entry: Normal processing does not necessarily provide a definite positioning of the slitting burr.

3.6
lot
50 t or less of steel sheet of the same grade rolled to the same thickness and condition

3.7
edge camber
edge camber is the greatest deviation of a side from a straight line, the measurement being taken on the concave side with a straight edge

4 Dimensions

Hot-rolled steel sheet in coils of structural quality and heavy thickness is produced in the range of thicknesses greater than 6 mm to 25 mm, and widths of 600 mm and over, in coils.

5 Conditions of manufacture

5.1 Steelmaking

Unless otherwise agreed upon by the interested parties, the processes used in making the steel and in manufacturing hot-rolled sheet are left to the discretion of the manufacturer. On request, the purchaser shall be informed of the steelmaking process being used.

5.2 Chemical composition

The chemical composition (heat analysis) shall conform to the requirements given in Tables 1 and 2.

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