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Hot-rolled twin-roll cast steel sheet of structural quality and high strength steel

Tôles en acier de construction et en acier à haute résistance laminées à chaud par coulée entre cylindres

Reference number
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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Dimensions **2**
5 Conditions of manufacture **2**
5.1 Steelmaking 2
5.2 Chemical composition 2
5.3 Chemical analysis 2
5.3.1 Heat analysis 2
5.3.2 Product analysis 3
5.4 Mechanical properties 4
5.5 Application 5
5.6 Weldability 5
5.7 Surface condition 5
5.8 Oiling 6
5.9 Skin passing 6
6 Dimensional and shape tolerances **6**
7 Tensile test sampling **6**
8 Tensile test **6**
9 Retests **6**
9.1 Machining and flaws 6
9.2 Elongation 6
9.3 Additional tests 6
10 Resubmission **6**
11 Workmanship **7**
12 Inspection and acceptance **7**
13 Coil size **7**
14 Marking **7**
15 Information supplied by the purchaser **8**
Bibliography **9**

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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).

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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 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

This second edition cancels and replaces the first edition (ISO 15179:2012), which has been technically revised.

The main changes are as follows:

— update of Clause 3;

— modification of the title of Clause 4.

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Hot-rolled twin-roll cast steel sheet of structural quality and high strength steel

1 Scope

This document specifies the requirements for hot-rolled twin-roll cast steel sheet of structural quality and high strength steel.

The product is intended for applications where specific mechanical properties are required. It is generally used in the delivered condition and is intended for bolted, riveted or welded structures, and it is produced on a wide strip mill, not a plate mill.

Structural quality twin-roll cast steel sheet is a carbon steel produced to specified mechanical properties and is available in a number of grades.

High strength hot-rolled twin-roll cast steel sheet, strengthened by microalloys is produced to specified mechanical properties and is available in a number of grades and classes.

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

ISO 16160, *Hot-rolled steel sheet products — Dimensional and shape tolerances*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
hot-rolled twin-roll cast steel sheet
product resulting from the twin-roll process to obtain the required sheet thickness and tolerances

3.2
hot-rolled twin-roll cast descaled steel sheet
hot-rolled steel sheet from 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 methods such as grit blasting. Some change in properties can result from descaling.

3.3
mill edge
normal side edge without any definite contour produced in hot-rolling

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

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3.4
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 position of the slitting burr.

3.5
twin-roll cast steel sheet
steel sheet produced by casting to near final thickness directly from the liquid metal with minimal hot-rolling to achieve the final thickness

3.6
skin passing
light cold rolling of the product

Note 1 to entry: The purpose of skin passing is one or more of the following: to minimize the appearance of coil breaks, stretcher strains and fluting; to control the shape; or to obtain the required surface finish.

Note 2 to entry: Some increase in hardness and some loss in ductility will result from skin passing.

3.7
lot
up to a specified quantity of steel sheet of the same designation rolled to the same thickness and surface condition

4 Dimensions

4.1 Hot-rolled twin-roll cast steel sheet is commonly produced in thicknesses from 0,7 mm to 2,0 mm inclusive and in widths of up to 2 000 mm maximum in coils and cut lengths.

4.2 Hot-rolled twin-roll cast steel sheet less than 600 mm wide, slit from wide sheet, is considered as sheet.

5 Conditions of manufacture

5.1 Steelmaking

Unless otherwise agreed by the interested parties, the processes used in making the steel and in manufacturing hot-rolled twin-roll cast steel 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, 2 and 3.

5.3 Chemical analysis

5.3.1 Heat analysis

An analysis of each heat shall be made by the manufacturer in order to determine conformity with the requirements given in Tables 1, 2 and 3. On request, a report of the heat analysis shall be made available to the purchaser or the purchaser's representative. Each of the elements listed in Tables 1, 2 and 3 shall be included in the report of the heat analysis. When the amount of copper, nickel, chromium or molybdenum present is less than 0,02 %, the analysis may be reported as "<0,02 %".

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