
**Hot-rolled steel sheet of high yield
stress structural quality**

Tôles laminées à chaud en acier de construction à haute limite d'élasticité

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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.4 Edges.....	2
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 Weldability.....	4
5.5 Application.....	4
5.6 Mechanical properties.....	4
5.7 Surface condition.....	4
5.8 Oiling.....	4
6 Dimensional and shape tolerances	5
7 Tensile test sampling	5
8 Tensile test	5
9 Retests	5
9.1 Machining and flaws.....	5
9.2 Elongation.....	6
9.3 Additional tests.....	6
10 Resubmission	6
11 Workmanship	6
12 Inspection and acceptance	6
13 Coil size	6
14 Marking	7
15 Information to be supplied by the purchaser	7
Bibliography	8

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

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

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

This fifth edition cancels and replaces the fourth edition (ISO 4996:2007), which has been technically revised.

Hot-rolled steel sheet of high yield stress structural quality

1 Scope

This International Standard applies to hot-rolled steel sheet of high yield stress structural quality with the use of microalloying elements. The product is intended for structural purposes where particular mechanical properties are required. It is generally used in the delivered condition and is intended for structures that may include bolting, riveting and welding.

Because of the combination of higher strength and microalloy composition, it is possible to obtain savings in mass, along with better formability and weldability as compared with steel sheet without microalloying elements. The product is produced on a wide strip-mill, not a plate mill.

This International Standard does not cover steels intended for boilers or pressure vessels, steels designated as commercial quality or drawing quality (covered by ISO 3573), steels to be re-rolled to cold-reducing products, steels designated as weathering steels, having increased atmospheric corrosion resistance, or steels having improved formability properties compared with those in this International Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. 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 testing at ambient 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.

3.1

microalloying element

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

3.2

hot-rolled steel sheet

product obtained by rolling heated steel through a continuous-type or reversing-type wide strip-mill to the required sheet thickness, the product having a surface covered with oxide or scale resulting from the hot-rolling operation

3.3

hot-rolled 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 may also be performed by a mechanical means such as grit blasting. Some changes in properties may result from descaling.