
**Hot-rolled steel sheet of higher yield
strength with improved formability**

*Tôles en acier laminées à chaud à limite d'élasticité et aptitude au
formage accrues*

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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 5951 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

This fifth edition cancels and replaces the fourth edition (ISO 5951:2008), which has been technically revised.

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Hot-rolled steel sheet of higher yield strength with improved formability

1 Scope

1.1 This International Standard applies to all grades of hot-rolled steel sheet of higher yield strength with improved formability. The steel is killed, made according to a fine grain practice and has a suitable chemical composition, including microalloying elements, to provide improved formability. The product is intended for the fabrication of parts requiring better formability than is provided by normal high yield strength steel sheet. It is generally used in the delivered condition.

1.2 Because of the combination of higher strength and improved formability, it is possible to obtain savings in mass along with better weldability.

1.3 This International Standard does not cover steel intended for boilers or pressure vessels, steels designated as commercial quality or drawing quality (covered in ISO 3573), steels designated as weathering steels, having increased atmospheric corrosion resistance, or lower yield strength steels having less formability compared with those in this International Standard (covered in ISO 4995 and ISO 4996).

2 Normative references

The following referenced documents are indispensable for the application 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*

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

ISO 20805, *Hot-rolled steel sheet in coils of higher yield strength with improved formability and heavy thickness for cold forming*

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, 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

product obtained by rolling heated steel through a continuous hot strip mill or other hot rolling processes that produce a coiled product to 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.