
**Cold-reduced steel sheet of higher yield
strength with improved formability**

*Tôles laminées à froid en acier 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 13887 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

This third edition cancels and replaces the second edition (ISO 13887:2004), which has been technically revised.

Introduction

With the combination of higher strength and improved formability derived from the tests outlined in this International Standard, it is possible to obtain savings in mass along with better weldability.

The last two standards listed in the Bibliography may be reviewed for comparison with this International Standard. The relationship between the standards might only be approximate; therefore, the respective standards should be consulted for actual requirements. Those who use these documents will need to determine which specifications address their needs.

Cold-reduced steel sheet of higher yield strength with improved formability

1 Scope

This International Standard applies to all grades of cold-rolled steel sheet of higher yield strength with improved formability. The steel is made according to 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. It is generally used in the delivered condition.

This International Standard is not applicable to steels designated as commercial quality or drawing quality (see ISO 3574), steels of structural quality (see ISO 4997) or steels of high tensile strength and low yield point with improved formability (see ISO 14590).

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

ISO 16162, *Continuously cold-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

cold-reduced steel sheet

product obtained from hot-rolled descaled steel sheet by cold-reducing to the required sheet thickness followed by annealing to recrystallize the grain structure

3.2

skin pass

light cold-rolling of the product

NOTE The purpose of the skin passing is one or more of the following:

- a) to minimize the appearance of coil breaks, stretcher strains and fluting;
- b) to control the shape;
- c) to obtain a required surface finish suitable for ordering decorative painting.

Some increase in hardness and some loss of ductility will result from skin passing.

4 Conditions of manufacture

4.1 Steelmaking

Unless otherwise agreed, the processes used in making the steel and in manufacturing cold-reduced steel sheet are left to the discretion of the manufacturer. On request, the purchaser shall be informed of the steelmaking process being used.