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## Cold-reduced carbon steel sheet of structural quality

*Tôles en acier au carbone laminées à froid, de qualité destinée à la  
construction*

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# Contents

Page

|                                                             |           |
|-------------------------------------------------------------|-----------|
| <b>Foreword</b> .....                                       | <b>iv</b> |
| <b>1 Scope</b> .....                                        | <b>1</b>  |
| <b>2 Normative references</b> .....                         | <b>1</b>  |
| <b>3 Terms and definitions</b> .....                        | <b>1</b>  |
| <b>4 Dimensions</b> .....                                   | <b>2</b>  |
| <b>5 Conditions of manufacture</b> .....                    | <b>2</b>  |
| 5.1 Steelmaking.....                                        | 2         |
| 5.2 Chemical composition.....                               | 2         |
| 5.3 Chemical analysis.....                                  | 3         |
| 5.3.1 Heat analysis.....                                    | 3         |
| 5.3.2 Product analysis.....                                 | 3         |
| 5.4 Weldability.....                                        | 3         |
| 5.5 Application.....                                        | 4         |
| 5.6 Mechanical properties.....                              | 4         |
| 5.7 Surface quality.....                                    | 4         |
| 5.7.1 General.....                                          | 4         |
| 5.7.2 Surface quality A (unexposed).....                    | 4         |
| 5.7.3 Surface quality B (exposed).....                      | 4         |
| 5.8 Surface finish.....                                     | 5         |
| 5.9 Suitability for surface coating.....                    | 5         |
| 5.10 Oiling.....                                            | 5         |
| <b>6 Dimensional and shape tolerances</b> .....             | <b>5</b>  |
| <b>7 Tensile-test sampling</b> .....                        | <b>5</b>  |
| <b>8 Tensile test</b> .....                                 | <b>5</b>  |
| <b>9 Retests</b> .....                                      | <b>5</b>  |
| 9.1 Machining and flaws.....                                | 5         |
| 9.2 Elongation.....                                         | 5         |
| 9.3 Additional tests.....                                   | 6         |
| <b>10 Resubmission</b> .....                                | <b>6</b>  |
| <b>11 Workmanship</b> .....                                 | <b>6</b>  |
| <b>12 Inspection and acceptance</b> .....                   | <b>6</b>  |
| <b>13 Coil size</b> .....                                   | <b>6</b>  |
| <b>14 Marking</b> .....                                     | <b>6</b>  |
| <b>15 Information to be provided by the purchaser</b> ..... | <b>7</b>  |
| <b>Bibliography</b> .....                                   | <b>8</b>  |

## 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](http://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](http://www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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

This fifth edition cancels and replaces the fourth edition (ISO 4997:2007), which has been technically revised.

# Cold-reduced carbon steel sheet of structural quality

## 1 Scope

This International Standard applies to cold-reduced carbon steel sheet of structural quality in grades CR220, CR250, CR320, and CH550, usually without the use of microalloying elements. The product is intended for structures that include bolting, riveting, and welding. It is generally used in the delivered condition for fabricating purposes, such as bending, forming, and welding.

This International Standard does not cover steels designated as commercial quality or drawing qualities (covered in ISO 3574), cold-reduced carbon steel sheet according to hardness requirements (covered in ISO 5954), cold-reduced steel sheet of higher strength with improved formability (covered in ISO 13887), or cold-reduced steel sheet of high tensile strength and low yield point with improved formability (covered in ISO 14590).

## 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 reference documents (including any amendments) applies.

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

ISO 16162, *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

#### **microalloying element**

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 steels produced to equivalent strength levels

### 3.2

#### **cold-reduced steel sheet**

<grades CR220, CR250, and CR320> product obtained from hot-rolled descaled steel sheet by cold reducing to the required sheet thickness followed by annealing to recrystallize the grain structure

Note 1 to entry: The annealed product is normally supplied skin-passed (see 3.3) but may be supplied annealed-last (i.e. without a skin pass), if specified by the purchaser on his order.

Note 2 to entry: CH 550 is a product which has not been annealed after reduction to the specified thickness.

### 3.3

#### **skin pass**

<except grade CH 550> light cold rolling of the product

Note 1 to entry: The purpose of the skin passing is one or more of the following:

- to minimize the appearance of coil breaks, stretcher strains, and fluting;
- to control the shape;
- to obtain the required surface finish.