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**Continuous mill flat rolled products —  
Guidelines for improved ordering  
communication**

*Produits plats laminés en continu — Lignes directrices visant à améliorer  
les échanges entre client et fournisseur au moment de la commande d'un  
produit*

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15812 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

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## Introduction

This International Standard applies to those products defined by the specifications which are the responsibility of ISO TC 17/SC 12. The field of application is limited to the product types, features and options of those specifications. Because of the extensive product customization that is often required for each order, it is important to develop a system for communication of the order requirements before mass production is initiated.

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# Continuous mill flat rolled products — Guidelines for improved ordering communication

## 1 Scope

This International Standard is a guideline intended to assist purchasers of continuous mill flat rolled products in assuring that their steel purchase orders meet the order entry needs of the producing steel mills so that the shipped material successfully satisfies the purchaser's requirements. It is intended to assist purchasers in considering key types of option in order to ensure full definition of the product requirements. The limited number of examples is to assist in ascertaining what type of information is required and cannot include every possible option available.

This International Standard is to be used in support of direct communication with the steel mills' technical and commercial specialists. They are best able to assist purchasers in defining the specifics of each order.

This International Standard does not replace or modify the section in each specification which defines information to be supplied by the purchaser.

## 2 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

### 2.1 Customer identification

#### 2.1.1

**company name**

name to which ownership shall be transferred

#### 2.1.2

**billing address**

address to which the invoice shall be sent

#### 2.1.3

**shipping address**

address to which the steel shall be sent

**NOTE** Even if the steel is sold FOB the mill or processor, the location of conversation to a part or product should be indicated to the steel mill or processor.

#### 2.1.4

**contact name**

person or persons who can be contacted to receive or supply information

### 2.2 Product description

#### 2.2.1

**base product**

base material being purchased, e.g. hot-rolled, cold-rolled, hot-dipped, galvanized

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### 2.2.2

#### **general quality**

general quality level of the steel being purchased, e.g. commercial quality, deep drawing quality, structural quality

### 2.2.3

#### **quantity**

quantity being purchased in pounds, tons, kilograms or tonnes

### 2.2.4

#### **finish**

general finish being purchased, e.g. pickled and oiled on hot-rolled sheet product, matte on cold-rolled sheet product, bright finish on strip and minimum spangle on galvanized coated product

### 2.2.5

#### **end use**

part description to which the steel is to be converted, e.g.  $\times 42$  linepipe, automotive engine oil pan, filing cabinet, drawer slide

NOTE For first time orders, a drawing or photograph should be supplied.

### 2.2.6

#### **part number**

unique identifier assigned to the component into the steel sheet is to be manufactured

NOTE When the end use is a part of a larger assembly, a part number is usually available and should be included along with the end use description.

## 3 Product specification reference

### 3.1 ISO designation

An ISO specification number consistent with the product description needs to be referenced; e.g. ISO 3573 HR1 - Hot-rolled carbon steel sheet - Commercial Quality.

### 3.2 Other proprietary or society designation

When appropriate, the purchaser may wish to supply alternate specifications to which the steel can be produced and that are also consistent with the product description.

### 3.3 Special chemistry restrictions

Because of the method of part manufacture or part application, special chemistry restrictions may be known to be required, from past experience. These restrictions should be indicated at the time of initial ordering. Only special restrictions that the steel shall meet should be included.

### 3.4 Mechanical property limits

Because certain ISO specifications allow a choice of measurement methods and values, it is necessary to clearly indicate the method and values applicable to this order. Only those values that the material shall meet should be included.

NOTE Tensile testing is performed in the transverse direction.

### 3.5 Coating weight

When the steel is to be coated, the coating weight designation shall be included. The coating weight designation shall be one of those contained in the ISO specification.

### 3.6 Additional needs

Additional requirements which shall be met in order for the material to produce the part or meet final application needs shall be disclosed to the producing mill and processor. Examples may include impact properties or corrosion resistance.

### 3.7 Telephone, fax, internet

This information shall include all the company's usual communication numbers and electronic addresses.

### 3.8 Additional optional information

This shall include additional information that will assist in identifying names, addresses and communication tools.

## 4 Dimensions, tolerances and coil sizes

### 4.1 Thickness

#### 4.1.1 Dimensions

The order form shall record the nominal or minimal thickness being ordered.

#### 4.1.2 Tolerance

Some ISO specifications contain alternative thickness tolerance tables and the order shall indicate the choice and applicable value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

### 4.2 Width

#### 4.2.1 Dimensions

Usually the minimum width being ordered but may be the nominal width when the applicable width tolerance is both plus and minus.

#### 4.2.2 Tolerance

The order shall record the applicable tolerance value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

### 4.3 Mill/cut edge

The order shall designate one of potential edge types designated in the specification.

### 4.4 Inside diameter

The order form shall record the inside diameter required for coil form orders. Typical values include 500 mm, 600 mm and 760 mm.

#### 4.5 Outside diameter

The order form shall record the outside diameter required for coil form orders. Typically the value is dependent on equipment limitations of subsequent processing steps.

#### 4.6 Camber

The order shall record the applicable tolerance value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

#### 4.7 Flatness

The order shall record the applicable tolerance value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

#### 4.8 Crown

The order shall record the applicable tolerance value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

#### 4.9 Telescope

The order shall record the applicable tolerance value. Any tolerance different from the specification shall be negotiated with the supplying mill or processor.

#### 4.10 Weight

The order form shall record the total weight required. It is suggested that a plus/minus tolerance on the ordered weight be included. Additionally, the maximum and minimum piece weight is required for coil form orders. The maximum weight shall not exceed the theoretical weight calculated from the inside and outside diameters.

#### 4.11 Ordering cut lengths

For steel ordered in the form of cut lengths, the length of the cut lengths shall be included. If a limitation on the bundle height is required to meet subsequent needs, that value shall be included. In addition, the required maximum and minimum bundle weight shall be on the order with the maximum bundle weight consistent with the calculated theoretical weight when a bundle height limitation is required.

#### 4.12 Additional optional information

Steel mills typically weld coils together during manufacture. If subsequent processing or final application needs require that no welds be present in the shipped product, a statement such as "no welds" shall be included on the order.

### 5 Surface and surface treatment

#### 5.1 Inspection level

The order shall record the applicable surface quality level when a choice is given in the specification. A level different from the specification shall be negotiated with the supplying mill or processor.

#### 5.2 Oiling

The order shall indicate the choice between an oiled or dry (non-oiled) surface.

### 5.3 Chemical treatment

Suppliers of metal coated steels may offer a choice between surface chemical treatments or no treatment at all. A typical example is the chromate treatment of hot-dipped galvanized after coating. Such orders shall include the applicable chemical treatment.

### 5.4 Additional information

If required, a specific oil type shall be designated on the order. Similarly, if restrictions in oil levels are needed, the order shall record such restrictions.

Various types of organic coating may be applied to flat-rolled sheet products. Refer to the appropriate documents for pertinent ordering information.

Some steel suppliers may offer alternate surface qualities. In addition, some steel suppliers may offer oiling/surface treatments that assist in forming. A direct contact with the supplier's technical representative is required for such orders.

## 6 Final application needs

A description of the needs to be met by the manufactured part or assembly may be appropriate. Issues that need to be addressed include resistance to corrosion, to fatigue and to brittle fracture at reduced temperatures, as well as other needs.

The issues in this element can be very complex and the end use description in the product description may not communicate all the needs. If there are concerns in the area, it is essential that the supplier's technical specialist be contacted.

## 7 Manufacturing Processing Needs

### 7.1 General

This is a description of what is going to occur to the steel during subsequent manufacturing. 7.2 to 7.7 give examples of manufacturing processes.

### 7.2 Cutting

If the steel is going to be blanked, punched, torch cut, sheared or some alternate form of cutting, the steel supplier shall be advised.

### 7.3 Surface working

If the steel is going to be machined, polished, embossed or some alternate form of surface working, the steel supplier shall be advised.

### 7.4 Forming

If the steel is going to be drawn, bent, stretched, roll formed or some alternate method of forming, the steel supplier shall be advised.

### 7.5 Welding/joining

If the steel is going to be spot welded, wire welded or some alternate method of welding or joining, the steel supplier shall be advised.