



SLOVENSKI STANDARD SIST EN 606:2005

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Bar coding - Transport and handling labels for steel products

Strichcodierung - Etiketten für Transport und Handhabung von Stahlprodukten

Codes á barres - Etiquettes pour transport et manutention de produits sidérurgiques
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35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
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EUROPEAN STANDARD
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Bar coding - Transport and handling labels for steel products

Codes barres - Etiquettes pour transport et manutention de produits sidérurgiques

Strichcodierung - Etiketten für Transport und Handhabung von Stahlprodukten

This European Standard was approved by CEN on 21 June 2004.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EN 606:2004 (E)**Foreword**

This document (EN 606:2004) has been prepared by ECISS/WG11 under control of CEN/TC 225, "AIDC technologies", the secretariat of which is NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005..

This document supersedes ENV 606:1992.

This document is a development of and replaces the European Pre-standard ENV 606 approved by CEN in August 1992 as a prospective standard for provisional application. That provisional application in the trading of steel products together with the experience in its use and the publication of ISO 15394, provide the basis on which this document is established. This document, therefore, complies with ISO 15394 'Bar code and two dimensional symbols for shipping, transport and receiving labels'.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Introduction

In common with most other industrial products, steel products, that is those defined in EN 10079, when despatched by the manufacturer, referred to in the document as the 'supplier', require labelling that will ensure delivery to the correct address of the 'buyer' and allow accurate access to relevant information in the parties' systems to initiate subsequent activities, e.g. recording, storing, handling, transportation, processing, invoicing, etc. The labels specified in this document provide standard elements of identifiable information formatted in standard layouts with bar codes according to standard symbologies.

It is considered that the use of this document will improve efficiency, reduce costs, provide for traceability (e.g. to EN ISO 9001) and minimise the proliferation of label designs. Maximum advantage is gained when such labels provide the physical link in business transactions between the parties using Electronic Data Interchange (EDI) systems allowing faster and accurate input and product transfer procedures and other associated advantages of electronic data processing. An Annex is included mapping those data elements that either shall or may be included on a bar coded label and the despatch advice message (DESADV) according to the EDIFACT directory D96.A.

Steel products are manufactured and delivered in a variety of different shapes, sizes and methods of packaging and transport which can present problems as to the fixing and security of labels. This document specifies the two label formats established previously in ENV 606:1992 which have found acceptance in the market place. Two other transport label formats and two handling label ones are specified providing flexibility as to their formats but with certain mandatory data elements, e.g. licence plate number, and a choice of other data elements depending upon the requirements of the trading parties.

The labels specified in this document are not necessarily associated with any particular steel product form; it is the responsibility of the supplier to select the label most appropriate to the trading parties' requirements.

All labels include the data element 'Licence plate number', that is the unique identification of a transport unit as set out in ISO/IEC 15459 and required in ISO 15394. An Annex in this document sets out the structure of such a licence plate number and the means to obtain the necessary codes.

EN 606:2004 (E)**1 Scope**

This document specifies the requirements for labels containing human readable and bar coded information for fixing to steel products for the purpose of despatch, transport, and reception in accordance with the requirements of ISO 15394. Data elements are specified together with their status, location on the label, the appropriate data identifier and choice of bar code symbology.

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.

EN 1556:1998, *Bar coding - Terminology*.

EN 10079:1992, *Definition of steel products*.

EN ISO 216, *Writing papers and certain classes of printed matter - Trimmed sizes - A and B series (ISO 216:1975)*.

EN ISO/IEC 15416, *Information technology - Automatic identification and data capture techniques - Bar code print quality test specification - Linear symbols (ISO/IEC 15416:2000)*.

EN ISO/IEC 15438:2003, *Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - PDF 417 (ISO/IEC 15438:2001)*.

ISO 15394:2000, *Packaging - Bar code and two-dimensional symbols for shipping, transport and receiving labels*.

ISO/IEC 15415, *Information technology - Automatic identification and data capture techniques - Bar code print quality test specification - Two-dimensional symbols*.

ISO/IEC 15417, *Information technology - Automatic identification and data capture techniques - Bar code symbology specification - Code 128*.

ISO/IEC 15418:1999, *Information technology - EAN/UCC Application Identifiers and FACT Data Identifiers and Maintenance*.

ISO/IEC 15434, *Information technology - Transfer syntax for high capacity ADC media*.

ISO/IEC 15459-1:1999, *Information technology - Unique identification of transport units - Part 1: General*.

ISO/IEC 15459-2:1999, *Information technology - Unique identification of transport units - Part 2: Registration procedures*.

ISO/IEC 16022, *Information technology - International symbology specification - Data matrix*.

ISO/IEC 16388, *Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - Code 39*.

ISO/IEC 18004, *Information technology - Automatic identification and data capture techniques - Bar code symbology - QR Code*.

ISO/DIS 19762, *Information technology - Automatic identification and data capture techniques - Harmonized Vocabulary, Part 1 - General terms relating to automatic identification and data capture*.

ANSI MH10.8.2, *Data application identifier standard*.

3 Terms and definitions

For the purpose of this document, the terms and definitions given in EN 1556:1998, EN 10079:1992, ISO 15394:2000, EN ISO 15438:2003, ISO/IEC 15418:1999, ISO/IEC 15459:1999, ISO/IEC 19762, ANSI MH10.8.2 and the following apply.

3.1

active area

defined area of a bar coded label containing specified data elements

3.2

receiver

in a transaction, the party to whom the transport unit is consigned, who may be the buyer

3.3

supplier

in a transaction, the party who produces or provides the transport unit or product

3.4

transport unit

package intended for transportation comprising one or more articles, wrapped or unwrapped, and when multiple articles, constrained to form a unit

4 Requirements

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4.1 General

Bar coded labels for steel products shall be in accordance with ISO 15394.

4.2 Materials, print and fixing

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Label materials should be white with black printed information. Colour printing may be used for images, e.g. logos, symbols.

Label materials and their fixing shall be selected taking account of the following:

- a) security of fixing for the useful life of the label. Self-adhesive label substrate shall be of 80 g/m² weight minimum. Labels that are left free in a label holder shall have a substrate of 150 g/m² minimum. Attention should be given when using self-adhesive labels with their protective film as they have different dilatation values which may lead to bending of the label over the label holder;
- b) maintenance of readability, both visually and automatically for its useful life, i.e. despatch, transport, delivery and storage of the transport unit;
- c) environment, e.g. contamination, heat, and light, with particular regard to the temperature of the steel product during fixing, delivery and storage;
- d) ultimate disposal.

4.3 Active area

Labels shall have a defined active area.

Label size may exceed the active area at the discretion of the label issuer for the purpose of including other information and for fixing to the transport unit. Information printed outside the active area of the label shall not conflict, confuse or be incompatible with the information within the active area.

EN 606:2004 (E)**4.4 Bar coded information****4.4.1 Linear bar coded information****4.4.1.1 Symbology**

Linear bar coded information shall use one of the following bar code symbologies:

- a) code 39 in accordance with ISO/IEC 16388;
- b) code 128 in accordance with ISO/IEC 15417.

NOTE The length of the data and the space available for printing the bar code symbol, together with other factors, influences the choice of symbology.

4.4.1.2 Requirement

Bar coded information (bar code symbols) shall comply with the following requirements:

- a) the minimum overall symbol grade shall be 1,5/05/660 (as defined in EN ISO/IEC 15416) where:
 - i) 1,5 is the minimum print quality grade at point of production;
 - ii) 05 is the reference number according to EN ISO/IEC 15416 for a measurement aperture nominally 0,125 mm in diameter (5 thousandths of an inch);
 - iii) 660 nm \pm 10 nm is the inspection wavelength.
- b) non significant zeros and spaces shall be omitted;
- c) shall be prefixed by the appropriate data identifier: see Tables 1, 2, 3 and 4;
- d) nominal width of narrow element (X) between 0,21 mm and 0,33 mm with a measured value of not less than 0,20 mm;
- e) symbols in Code 39 shall have a ratio (N) of 2,0:1 to 3,0:1.

NOTE Symbols with X dimension below 0,32 mm may require special care to meet the print quality requirements of EN ISO/IEC 15416.

It is important that the linear bar code symbol be decodable throughout the system of use. For this reason, quality tests should not be limited to label production inspection but also should be followed through to the end of use. The above symbol quality and measurement parameters should assure scannability over a broad range of scanning environments. The labeller should not be required to guarantee the print quality of a label when it is received by the consignee. Print quality at the point of production should be higher than the requirements at the point of use.

Unattended scanning may require a higher print quality grade than identified above. Consequently, those implementing this document for unattended scanning applications should discuss print quality requirements with trading parties.

4.4.2 Two-dimensional bar coded information**4.4.2.1 Introduction**

In the label defined in Clause 6, two-dimensional symbols may be used where information is required to be accessed automatically but cannot be accommodated in linear bar code symbols.

4.4.2.2 Symbology

The two-dimensional symbology shall be agreed between trading partners. PDF417 in accordance with EN ISO/IEC 15438 is recommended. Data matrix ECC 200 in accordance with ISO/IEC 16022 or QR Code in accordance with ISO/IEC 18004 may be used.

4.4.2.3 Requirements

Two-dimensional bar coded information shall comply with the following requirements:

a) the minimum overall symbol grade when measured in accordance with ISO/IEC 15415 shall be 1,5/10/660, where:

- i) 1,5 is the minimum print quality grade at the point of production;
- ii) 10 is the reference number according to EN ISO/IEC 15416 for a measurement aperture nominally 0,25 mm in diameter (10 thousandths of an inch);
- iii) 660 nm \pm 10 nm is the inspection wavelength.

b) where PDF417 symbols are used, the error correction level shall be 5;

c) where QR Code symbols are used, the error correction level shall be M;

d) bar code X dimension and (for PDF417) row height shall be as defined for the label format in Clause 6;

NOTE Symbols with X dimension below 0,32 mm may require special care to meet the print quality requirements of ISO/IEC 15415.

e) data shall be structured in accordance with ISO 15434;

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f) data fields shall be preceded by the appropriate data identifier; see Table 2.

4.5 Human readable information

Human readable information shall be printed in bold characters in Arial font or its equivalent and shall provide a human-readable interpretation for the purpose of manual key entry.

4.6 Data elements

4.6.1 Selection and status

Data elements comprising information to be included on a label, whether in bar code or in human readable form, shall be set out as specified in Tables 1, 2, 3 and 4 as appropriate to the label format chosen.

The status of data elements are classified as follows:

- a) mandatory data elements, that is those that shall be included in the relevant label, are designated 'M' in Tables 1, 2, 3 and 4;
- b) optional data elements, that is those that may be included in the relevant label depending on the requirements of the trading parties concerned, are designated 'O' in Tables 1, 2, 3 and 4.

4.6.2 Licence plate number

The data element 'licence plate number' shall be included and located at the bottom of all labels (see Figures 1, 2, 3 and 4) providing a unique identification of the transport unit or product in accordance with Annex A and ISO/IEC 15459:1999 and as required by ISO 15394. The licence plate number shall not be re-used within a period of at least 12 months, depending on traceability requirements.

EN 606:2004 (E)**4.6.3 Data element titles**

Data element titles as provided in Tables 1, 2, 3 and 4 shall, except as shown in Figure 4b, be set above the data element, left justified in the top left hand corner of the area and shall be suffixed by the appropriate data identifier which shall be enclosed in brackets (see 4.6.4). Data element titles shall be printed IN UPPER CASE letters of not less than 2 mm or point size 9 in bold Arial font and in the supplier's or receiver's language as agreed by the trading parties concerned (see Annex F).

4.6.4 Data identifiers

Data elements presented in bar code shall be identified by FACT data identifiers in accordance with ANSI MH 10.8.2 as provided in ISO/IEC 15418 and required by ISO 15394.

Data elements presented in human readable form should, in as far as they are available, be identified by FACT data identifiers in accordance with ANSI MH 10.8.2.

NOTE Data identifiers are not part of the data. In human readable form they suffix the appropriate data element title and are shown within parentheses. In bar code form they prefix the relevant data element and the brackets are not encoded.

5 210 mm x 148 mm transport label**5.1 General**

The label shall be set out as in Figure 1 having an active area of 210 mm x 148 mm, corresponding to A5 size according to EN ISO 216.

Where space for fixing the transport label is restricted it may be divided as indicated in Figure 1 and fixed to the transport unit in its two adjacent parts.

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5.2 Linear bar codes

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In addition to the requirements of 4.4.1.2, linear bar coded information shall have a height of not less than 13 mm.

Data elements, together with their titles and their identifiers, shall be as set out in Table 1 and presented on the label as in Figure 1.

Data areas 15A, 15B, 15C and 15D may be identified by their appropriate titles (see Annex C).

Printed lines shall define data areas. The left/right outside boundaries of the active area shall not be printed.

Table 1 — Data elements for 210 mm x 148 mm transport label (see Clause 5)

Data element	Data identifier See 4.6.4	Data element title and description of data content ^a see 4.6.3	Status ^b M or O see 4.6.1	Data representation			
				Human readable characters see 4.5			Bar code
				Format ^c	Height ^d		yes/no
					mm	Point	
1	1L	RECEIVER Name and address of destination as specified by the buyer	M	an..27x2 or an..27x3	5 4	18 14	No No
2	2L	DELIVERY PLACE Name and address of exact location of unloading point as specified by the supplier and agreed by the buyer.	M	an..35x2 or an..35x3	5 4	18 14	No No
3	K 11K 15K 16K	DOCUMENT No ^e Shipping reference specified by the supplier and agreed with the buyer, which may be one of the following: BUYER'S ORDER No DESPATCH NOTE No KANBAN No DELIVERY INSTRUCTION No	M	an..9 an..9 an..9 an..9	6 6 6 6	24 24 24 24	Yes Yes Yes Yes
4	3L	SUPPLIER (Name, address) Including country of origin as specified by the supplier	M	an..29	4	12	No
5	5Q	NET WEIGHT + unit Weight (mass) of goods, excluding packaging as specified by the supplier Unit of weight (mass), e.g. kgm, lbm, shall be suffixed to the title	M M	n..5 an..3	6 2	24 8	No No
6	4Q	GROSS WEIGHT + unit Weight (mass) of goods, including packaging as specified by the supplier Unit of weight (mass), e.g. kgm, lbm, shall be suffixed to the title	M M	n..5 an..3	6 2	24 8	No No
7		NUMBER/NUMBER + unit ^e Number of pieces or length of product in coil, mass, etc., of product as specified by the supplier Unit of measure, e.g. kgm, lbm, m, ft, shall be suffixed to the title	M M	n..5 an..3	6 2	24 8	No No
							"Continued"