



SLOVENSKI STANDARD SIST EN 10147:2001

01-november-2001

BUXca Yý U
SIST EN 10147:1997
SIST EN 10147:1997/A1:1997

Continuously hot-dip zinc coated structural steels strip and sheet - Technical delivery conditions

Continuously hot-dip zinc coated structural steels strip and sheet - Technical delivery conditions

iTeh STANDARD PREVIEW
(standards.iten.ai)

Kontinuierlich feuerverzinktes Band und Blech aus Baustählen - Technische Lieferbedingungen

[SIST EN 10147:2001](#)

Bandes et tôles en acier de construction galvanisées a chaud en continue - Conditions techniques de livraison

<https://standards.iten.ai/catalog/standards/sist/90a695ba-d4bd-480a-86cb-4888a2244914/sist-en-10147-2001>

Ta slovenski standard je istoveten z: EN 10147:2000

ICS:

77.140.50 Ú[[z æá\ |^} áå å^|\ æå Flat steel products and semi-products
][|ã å^|\ ã

SIST EN 10147:2001 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 10147:2001

<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 10147

April 2000

ICS 77.140.50

Supersedes EN 10147:1991

English version

Continuously hot-dip zinc coated structural steels strip and sheet - Technical delivery conditions

Bandes et tôles en aciers de construction galvanisées à
chaud en continu - Conditions techniques de livraison

Kontinuierlich feuerverzinktes Band und Blech aus
Baustählen - Technische Lieferbedingungen

This European Standard was approved by CEN on 1 April 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 10147:2001
<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Classification and designation	6
4.1 Classification	6
4.2 Designation	6
5 Information to be supplied by the purchaser	6
5.1 Mandatory information	7
5.2 Options	7
6 Manufacturing process	8
7 Requirements	8
7.1 Mechanical properties	8
7.2 Coatings	9
7.3 Coating finish	9
7.4 Surface quality	10
7.5 Surface treatment (surface protection)	11
7.6 Freedom from coil breaks	12
7.7 Coating mass	12
7.8 Adhesion of coating	13
7.9 Surface condition	13
7.10 Tolerances on dimensions and shape	13
7.11 Suitability for further processing	13
8 Testing	14
8.1 General	14
8.2 Test units	14
8.3 Number of tests	14
8.4 Sampling	14
8.5 Test methods	15
8.6 Retests	16
8.7 Inspection documents	16
9 Marking	16
10 Packing	16

iTech STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 10147:2001](https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001)

<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001>

11	Storage and transportation	17
12	Disputes	17
Annex A	(normative) Reference method for determination of the zinc coating mass	18
Annex B	(informative) List of corresponding former designations	20
	Bibliography	21

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 10147:2001](https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001)

<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001>

Page 4
EN 10147:2000

Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 27 “Surface coated flat products - Qualities, dimensions, tolerances and specific tests”, the secretariat of which is held by DIN.

This European Standard supersedes EN 10147:1991.

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 October 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 10147:2001

<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001>

1 Scope

1.1 This European Standard specifies requirements for continuously hot-dip zinc coated flat products in thicknesses $\leq 3,0$ mm made of the steels given in Table 1. The thickness is the final thickness of the delivered product after zinc coating. This European Standard applies to strip of all widths and to sheets cut from it (≥ 600 mm width) and cut lengths (< 600 mm width).

The types of coating, coating masses and coating finishes available, and surface qualities are given in Tables 2 to 4 (see also 7.2 to 7.4).

1.2 If agreed at the time of ordering, this European Standard may also be applied to continuously hot-dip zinc coated flat products in thicknesses $> 3,0$ mm. In this case, the mechanical property, adhesion of coating and surface condition requirements shall also be agreed at the time of ordering.

1.3 The products covered by this European Standard are suitable for applications where the minimum yield strength values and resistance to corrosion are of prime importance. Corrosion protection afforded by the coating is directly proportional to the mass of coating (see also 7.2.2).

1.4 This European Standard is not applicable to

- continuously hot-dip zinc coated low carbon steel strip and sheet for cold forming (see EN 10142);
- electrolytically zinc coated ~~cold rolled steel~~ flat products (see EN 10152);
- continuously organic coated (coil coated) flat steel products (see EN 10169-1 and ENV 10169-2);
- continuously hot-dip coated strip and sheet of steels with higher yield strength for cold forming (see EN 10292).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 10002-1, *Metallic materials - Tensile testing - Part 1: Method of test (at ambient temperature)*

EN 10020, *Definition and classification of grades of steel*

EN 10021, *General technical delivery requirements for steel and steel products*

EN 10027-1, *Designation system for steel - Part 1: Steel names, principal symbols*

Page 6
EN 10147:2000

EN 10027-2, *Designation systems for steels - Part 2: Numerical system*

EN 10079, *Definition of steel products*

EN 10143, *Continuously hot-dip metal coated steel sheet and strip - Tolerances on dimensions and shape*

EN 10204, *Metallic products - Types of inspection documents*

CR 10260, *Designation systems for steel - Additional symbols*

EURONORM 12¹⁾, *Bend test for steel sheet and strip less than 3 mm thick*

3 Terms and definitions

For the purposes of this Standard the following terms and definitions apply in addition to the terms and definitions in EN 10020, EN 10021, EN 10079 and EN 10204 (see clause 2):

3.1

hot-dip zinc coating

application of zinc coating by immersing the prepared products in a molten bath containing a zinc content of at least 99 %.

In this case, the wide strip of steel is continuously hot-dip coated.

3.2

coating mass

total mass including both surfaces (expressed in grams per square metre)

4 Classification and designation

4.1 Classification

The steel grades according to this European Standard given in table 1 are classified according to their increasing minimum yield strength (R_{eH}).

4.2 Designation

4.2.1 Steel names

For the steel grades covered by this European Standard, the steel names as given in Table 1 are allocated in accordance with EN 10027-1 and CR 10260.

4.2.2 Steel numbers

For the steel grades covered by this European Standard, the steel numbers as given in Table 1 are allocated in accordance with EN 10027-2 and CR 10260.

1) Until it is transformed into European Standard, either EURONORM 12 or the corresponding national standard may be applied.

5 Information to be supplied by the purchaser

5.1 Mandatory information

The following information shall be supplied by the purchaser at the time of enquiry and order:

- a) the quantity to be delivered,
- b) the type of product (strip, sheet, cut length),
- c) the number of the dimensional standard (EN 10143),
- d) the nominal dimensions and the tolerances on dimensions and shape and, if applicable, letters denoting relevant special tolerances,
- e) the term "steel",
- f) number of this standard (EN 10147),
- g) steel name or steel number and symbol for the type of hot-dip coating as given in Table 1,
- h) number designating the nominal mass of coating (e.g. 275 = 275 g/m² including both surfaces, see Tables 2, 3 and 4), (standards.iteh.ai)
- i) letter denoting the coating finish (N, M or R, see Tables 2 and 3 and 7.3),
<https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a224914/sist-en-10147-2001>
- j) letter denoting the surface quality (A, B or C, see Tables 2 and 3 and 7.4),
- k) letter denoting the surface treatment (C, O, CO, S, P or U, see 7.5).

EXAMPLE 1 sheet, delivered with dimensional tolerances according to EN 10143 with a nominal thickness of 0,80 mm, ordered with special thickness tolerances (S), nominal width 1200 mm, ordered with special width tolerances (S), nominal length 2500 mm, ordered with special flatness tolerances (FS), made of steel S320GD+ZF (1.0250+ZF) according to EN 10147, coating mass 100 g/m² (100), coating finish regular (R), surface quality B, surface treatment oiled (O):

1 sheet EN 10143-0,80Sx1200Sx2500FS
steel EN 10147-S320GD+ZF100-R-B-O

or

1 sheet EN 10143-0,80Sx1200Sx2500FS
steel EN 10147-1.0250+ZF100-R-B-O

5.2 Options

A number of options are specified in this European Standard and listed below. If the purchaser does not indicate his wish to implement one of these options, the supplier shall supply in accordance with the basis specification of this European Standard (see 5.1).

- a) Any coating masses different from those of Table 4 (see 7.2.2),

- b) Any special requirements for different coating masses on each surface (see 7.2.3),
- c) Any hot-dip zinc coated products with pronounced spangle (see 7.3.1),
- d) Any products supplied free from coil breaks (see 7.6),
- e) Any maximum or minimum value for the coating mass per product surface (see 7.7.2),
- f) Notification of which surface has been inspected (see 7.9.1),
- g) Any testing for compliance with the requirements of this standard (see 8.1.1 and 8.1.2),
- h) Any supply of an inspection document and type of document (see 8.7),
- i) Any marking desired by branding of the products (see 9.2),
- j) Any requirements for packing (see clause 10).

6 Manufacturing process

The processes used in steelmaking and manufacture of the products are left to the discretion of the manufacturer.

iTeh STANDARD PREVIEW

7 Requirements

(standards.iteh.ai)

7.1 Mechanical properties

SIST EN 10147:2001

[https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-](https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001)

[4888a2244914/sist-en-10147-2001](https://standards.iteh.ai/catalog/standards/sist/90a695ba-d4bd-480e-86cb-4888a2244914/sist-en-10147-2001)

7.1.1 The products shall be supplied on the basis of the mechanical property requirements in Table 1.

7.1.2 The tensile test values shall apply to longitudinal samples and relate to the test piece cross section without zinc-coating.

7.1.3 A reduction in the formability of all the hot-dip zinc coated products specified in this standard may occur by ageing. Therefore it is in the interest of the user to use the products as soon as possible after receiving them.

Table 1 - Steel grades and mechanical properties of steels (for thicknesses ≤ 3 mm)

Designation			0,2%-proof strength ^a	Tensile strength ^b	Elongation ^c
Steel name	Steel number	Symbol for the type of hot-dip coating	$R_{p0,2}$ N/mm ² min.	R_m N/mm ² min.	A_{80} % min.
S220GD	1.0241	+ Z	220	300	20
S220GD	1.0241	+ ZF			
S250GD	1.0242	+ Z	250	330	19
S250GD	1.0242	+ ZF			
S280GD	1.0244	+ Z	280	360	18
S280GD	1.0244	+ ZF			
S320GD	1.0250	+ Z	320	390	17
S320GD	1.0250	+ ZF			
S350GD	1.0529	+ Z	350	420	16
S350GD	1.0529	+ ZF			
S550GD	1.0531	+ Z	550	560	-
S550GD	1.0531	+ ZF			

^a If the yield point is pronounced, the values apply to the upper yield point (R_{eH}).

^b For all grades except S550GD+Z and S550GD+ZF a range of 140 N/mm² can be expected for tensile strength.

^c For product thicknesses $\leq 0,7$ mm (including zinc coating) the minimum elongation values (A_{80}) shall be reduced by 2 units.

7.2 Coatings

7.2.1 Zinc (Z) or zinc-iron alloy (ZF) coatings as given in Tables 2 and 3 are applicable for the products.

7.2.2 The available coating masses given in Tables 2 and 3 may be supplied. Other coating masses shall be agreed separately at the time of ordering.

Thicker zinc coatings limit the formability and weldability of the products. Therefore, the forming and weldability requirements should be taken into account when ordering the coating mass.

7.2.3 If agreed at the time of ordering, different coating masses on each surface may be supplied for the hot-dip zinc coated flat products. The two surfaces may have a different appearance as a result of the manufacturing process.