

Electrolytically zinc coated cold rolled steel flat products for cold forming — Technical delivery conditions

The European Standard EN 10152:2003 has the status of a
British Standard

ICS 77.140.50

National foreword

This British Standard is the official English language version of EN 10152:2003. It supersedes BS EN 10152:1994 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/10, Flat rolled steel products, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 2 May 2003

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 15 and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments
14564 Corrigendum No. 1	18 July 2003	Correction to clause numbering in 6.14.2

© BSI 18 July 2003

ISBN 0 580 41781 6

English version

Electrolytically zinc coated cold rolled steel flat products for cold forming - Technical delivery conditions

Produits plats en acier, laminés à froid, revêtus de zinc par voie électrolytique pour formage à froid - Conditions techniques de livraison

Elektrolytisch verzinkte kaltgewalzte Flacherzeugnisse aus Stahl zum Kaltumformen - Technische Lieferbedingungen

This European Standard was approved by CEN on 21 February 2003.

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 Management Centre 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 Management Centre 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	3
1 Scope	3
2 Normative references	4
3 Terms and definitions	5
4 Classification and designation.....	5
4.1 Classification.....	5
4.2 Designation	5
5 Information to be supplied by the purchaser	6
6 Requirements	6
6.1 General.....	6
6.2 Steelmaking and manufacturing processes	7
6.3 Deoxidation	7
6.4 Chemical composition	7
6.5 Delivery condition.....	7
6.6 Choice of properties.....	7
6.7 Mechanical properties	7
6.8 Stretcher strain marks.....	9
6.9 Coatings.....	9
6.10 Adhesion of coating	10
6.11 Surface characteristics	10
6.12 Surface treatment (surface protection)	10
6.13 Applications	11
6.14 Mass, tolerances on dimensions and shape	11
7 Testing	11
7.1 General.....	11
7.2 Test units	12
7.3 Number of tests.....	12
7.4 Sampling	12
7.5 Test methods.....	12
7.6 Retests	13
7.7 Inspection documents.....	13
8 Marking	13
9 Packing	13
10 Storage and transportation.....	13
Annex A (normative) Reference method for determination of the zinc coating mass.....	14
Bibliography	15

Foreword

This document EN 10152:2003 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

This document supersedes EN 10152:1993.

Annex A is normative.

This document includes a Bibliography.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

1.1 This European Standard specifies requirements for continuously electrolytic zinc coated cold rolled flat products of low carbon steels suitable for cold forming according to Table 1 in rolled widths ≥ 600 mm and thicknesses from 0,35 mm up to and including 3 mm, delivered as strip (in coil form), sheet, slit strip or cut lengths obtained from slit strip or sheet.

1.2 This European Standard can also be applied to continuously electrolytic zinc coated cold rolled flat products of

- a) steels according to EN 10139 (cold rolled strip in rolled widths < 600 mm),
- b) other types of low carbon steel for cold forming,
- c) steels normally characterized by minimum yield strength values in addition to formability parameters, e. g.
 - steels with high yield strength and improved formability according to EN 10268, or other microalloyed steels,
 - high strength IF(without interstitial atoms) steels,
 - phosphorous alloyed steels and bake-hardening steels,
 - dual phase steels,
 - general purpose structural steels.

1.3 By special agreement at the time of enquiry and order this European Standard can be applied to continuously electrolytic zinc coated hot-rolled steel flat products (e.g. according to EN 10025, EN 10111, EN 10149-1 to EN 10149-3, etc.).

1.4 The coating masses, surface qualities and surface finishes are given in 6.9, 6.11 and Table 2. As the mass of the zinc coating applied is relatively small, the material is not intended to withstand outside exposure without further chemical treatment and painting.

1.5 This European Standard is not applicable to

- hot-dip zinc coated steel strip and sheet (see EN 10142 and EN 10147);
- continuously organic coated steel flat products (see EN 10169-1, ENV 10169-2 and prEN 10169-3).

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 10020:2000, *Definition and classification of grades of steel.*

EN 10021:1993, *General technical delivery requirements for steel and iron products.*

EN 10027-1, *Designation systems for steels - Part 1: Steel names; principal symbols.*

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

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

EN 10131, *Cold rolled uncoated low carbon and high yield strength steel flat products for cold forming - Tolerances on dimensions and shape.*

EN 10204:1991, *Metallic materials - Types of inspection documents.*

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

EN ISO 7438, *Metallic materials - Bend test (ISO 7438:1985).*

ISO 10113, *Metallic materials - Sheet and strip - Determination of plastic strain ratio.*

ISO 10275, *Metallic materials - Sheet and strip - Determination of tensile strain hardening exponent.*