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

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NATIONAL FOREWORD

See Eesti standard EVS-EN 10152:2017 sisaldab Euroopa standardi EN 10152:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 10152:2017 consists of the English text of the European standard EN 10152:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.01.2017.	Date of Availability of the European standard is 25.01.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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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 November 2016.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

European foreword

This document (EN 10152:2017) has been prepared by Technical Committee ECISS/TC 109 “Coated and uncoated flat products to be used for cold forming”, the secretariat of which is held by AFNOR.

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 July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 10152:2009.

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

1 Scope

This European Standard specifies requirements for continuously electrolytic (or produced with an alternative process on cold rolled finish substrate) 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 below and including 3 mm, delivered as strip (in coil form), sheet, slit strip or cut lengths obtained from slit strip or sheet.

NOTE 1 This European Standard can also be applied to continuously electrolytic zinc coated flat products of:

a) steels according to EN 10139 (cold rolled strip in rolled widths < 600 mm),

b) steels normally characterized by minimum yield strength or minimum tensile strength values in addition to formability parameters, e.g.

1) steels with high yield strength and improved formability according to EN 10268 (cold rolled flat products),

2) multiphase steels (cold rolled or hot rolled) according to EN 10338,

3) steels for construction according to national or regional standards (see e.g. DIN 1623).

NOTE 2 By 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 10025–1 and –2, EN 10111, EN 10149–1 to EN 10149–3, etc.).

NOTE 3 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.

NOTE 4 The products covered by this European Standard can be used as substrates for organic coated flat products specified in EN 10169 for building and general engineering applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

EN 10021:2006, *General technical delivery conditions for steel products*

EN 10027-1, *Designation systems for steels - Part 1: Steel names*

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

EN 10051, *Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels - Tolerances on dimensions and shape*

EN 10079:2007, *Definition of steel products*

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

EN 10204:2004, *Metallic products - Types of inspection documents*

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*

EN ISO 6892-1:2009, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1:2009)*

3 Terms and definitions

For the purposes of this document the terms and definitions given in EN 10020:2000, EN 10021:2006, EN 10079:2007, EN 10204:2004 and the following apply.

3.1
electrolytic zinc coating (ZE)
application of a zinc coating by electrolysis on a suitably prepared steel surface from an aqueous zinc salt solution by the use of an electric current

Note 1 to entry Flat products can have a zinc coating on one or both surfaces. If both surfaces are zinc coated, a different coating thickness can be applied on each side (this process being referred to as differential zinc coating).

4 Classification and designation

4.1 Classification

The steel grades specified in this European Standard are classified in accordance with EN 10020:2000 as non-alloy quality steels (DC01, DC03, DC04, DC05) and alloy quality steels (DC06, DC07) and by their increasing suitability for cold forming as follows:

— DC01: drawing quality;

— DC03: deep drawing quality;

— DC04, DC05: special deep drawing quality;

— DC06: extra deep drawing quality;

— DC07: super deep drawing quality.

4.2 Designation

4.2.1 The steel names are allocated in accordance with EN 10027-1. The steel numbers are allocated in accordance with EN 10027-2.

4.2.2 The products covered by this document shall be designated as follows in the given order:

1) Type of product (e.g. strip, sheet, cut length);

2) Number of this European Standard (EN 10152);

3) Steel name or steel number and symbol for the type of electrolytic coating (see Table 1);