

BS ISO 14788:2011



BSI Standards Publication

Continuous hot-dip zinc-5 % aluminium alloy coated steel sheet

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National foreword

This British Standard is the UK implementation of ISO 14788:2011. It supersedes BS ISO 14788:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/109, Coated and Uncoated Flat Products to be Used for Cold Forming.

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

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

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Third edition
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Continuous hot-dip zinc-5 % aluminium alloy coated steel sheet

Tôles en acier revêtues à chaud en continu d'alliage zinc-aluminium 5 %



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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14788 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 12, *Continuous mill flat rolled products*.

This third edition cancels and replaces the second edition (ISO 14788:2005), which has been technically revised.

Continuous hot-dip zinc-5 % aluminium alloy coated steel sheet

1 Scope

This International Standard is applicable to the minimum requirements for steel sheet, in coils and cut lengths, metallic-coated by the continuous hot-dip process, with zinc-5 % aluminium alloy coating.

The product is intended for applications requiring corrosion resistance, formability and paintability.

The steel sheet is produced in a number of qualities and grades, coating mass, surface treatments and coating conditions designed to be compatible with differing application requirements.

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.

ISO 1460, *Metallic coatings — Hot dip galvanized coatings on ferrous materials — Gravimetric determination of the mass per unit area*

ISO 2178, *Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method*

ISO 3497, *Metallic coatings — Measurement of coating thickness — X-ray spectrometric methods*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 7438, *Metallic materials — Bend test*

ISO 16163:2011, *Continuously hot-dipped coated steel sheet products — Dimensional and shape tolerances*

3 Terms and definitions

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

3.1 Quality applications

3.1.1

commercial

intended for general fabricating purposes where sheet is used in the flat condition, or for bending or moderate forming

3.1.2

drawing

intended for parts where drawing or severe forming may be involved

3.1.3

deep drawing

intended for parts where severe forming or severe drawing may be involved

3.1.4

deep drawing aluminium killed (non-ageing)

intended for fabricating parts where particularly severe drawing or forming may be involved or essential freedom from ageing is required

3.1.5

extra-deep drawing (stabilized)

intended for applications requiring interstitial-free steel (IF) which is non-ageing and has maximum formability

3.2

aluminium killed

steel which has been deoxidized with aluminium that is sufficient to prevent the evolution of gas during solidification

3.3

stabilized interstitial-free steel

extra-low-carbon steel in which all interstitial elements are combined with titanium and/or equivalent elements

NOTE Stabilized steel is sometimes referred to as interstitial-free steel.

3.4

continuous hot-dip zinc-5 % aluminium-coated steel sheet

product obtained by hot-dip coating of steel sheet coils on a continuous coating line to produce either coated coils or cut lengths

3.5

normal spangle

coating formed as a result of the unrestricted growth of zinc-5 % aluminium alloy crystals during normal solidification

3.6

smooth finish

smooth coating produced by skin passing the coated material in order to achieve an improved-surface condition as compared with the normal as-coated product

3.7

skin pass

light cold rolling of the coated steel sheet

NOTE The purpose of the skin pass is to produce a higher degree of surface smoothness and thereby improve the surface appearance. The skin pass also temporarily minimizes the occurrence of a surface condition known as stretcher strain (Lüders' lines) or fluting during the fabrication of finished parts. The skin pass also controls and improves flatness.

3.8

ageing

susceptibility of zinc-5 % aluminium alloy coated steel sheet to changes in properties with the passage of time

NOTE Ageing may result in a change in yield strength and corresponding decrease in ductility during storage. Ageing always has a negative effect on formability. The redevelopment of an upper yield point as a result of ageing can result in renewed susceptibility to surface imperfections, such as stretcher-strain marks (Lüders' lines) and fluting, when the steel is formed. To avoid these adverse outcomes, it is essential that the period between final processing at the producing mill and fabrication be kept to a minimum. Rotation of stock, by using the oldest material first, is important. Effective roller levelling immediately prior to fabrication can achieve reasonable freedom from stretcher-strain marks.