International Standard

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Cold-reduced tinmill products — Electrolytic chromium/chromium oxide-coated steel

Aciers pour emballage laminés à froid — Fer chromé électrolytique

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 9, *Tinplate and blackplate*.

This third edition cancels and replaces the second edition (ISO 11949:2016), which has been technically revised.

The main changes are as follows:

— an option to use either the trivalent chromium process or the hexavalent chromium process for electrolytic chromium/chromium oxide-coated steel has been added (see 3.2);

— a new term entry has been added to define "fine stone finish" (see 3.8.3), and subsequent entries have been renumbered;

— sheet numbers in bulk package other than multiples of 100 may be supplied (16.2);

— the maximum weight of sheets in bulk package has been increased up to 3 000 kg instead of 2 000 kg (see 16.2);

— several steel grades have been added (see Tables A.1, A.2 and B.1);

— the lower yield strength, R_{eL} has been specified for CA (see 9.3, 13.3.2, Annex B and Annex D).

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Cold-reduced tinmill products — Electrolytic chromium/chromium oxide-coated steel

1 Scope

This document specifies requirements for single and double cold-reduced electrolytic chromium/chromium oxide-coated steel (ECCS) in the form of sheets or coils.

Single cold-reduced ECCS is generally specified in nominal thicknesses that are multiples of 0,005 mm, from 0,150 mm up to and including 0,600 mm. Double cold-reduced ECCS is generally specified in nominal thicknesses that are multiples of 0,005 mm, from 0,100 mm up to and including 0,390 mm.

This document applies to coils and sheets cut from coils in nominal minimum rolling widths of 600 mm.[1)]

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 404, *Steel and steel products — General technical delivery requirements*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6892-1:2019, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 10474, *Steel and steel products — Inspection documents*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
blackplate
cold-reduced low-carbon mild steel, applied for manufacturing ECCS

Note 1 to entry: See ISO 11951[1].

3.2
electrolytic chromium/chromium oxide-coated steel
ECCS
cold-reduced low-carbon mild steel sheet or coil, electrolytically treated to produce on both surfaces a duplex film of metallic chromium adjacent to the steel substrate with a top layer of hydrated chromium oxide or hydroxide

Note 1 to entry: This can either be produced by a hexavalent chromium process or by a trivalent chromium process.

1) Nominal minimum rolling widths of 500 mm may be applied by agreement between the purchaser and the manufacturer.

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