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Magnetics materials - Specification for electrical steel strip and sheet with specified mechanical properties and magnetic polarisation

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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ICS 77.140.50

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EUROPEAN STANDARD

EN 10265

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2024

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Supersedes EN 10265:1995

English Version

Magnetics materials - Specification for electrical steel strip and sheet with specified mechanical properties and magnetic polarisation

Matériaux magnétiques - Spécification pour les bandes et tôles en acier électrique à caractéristiques mécaniques et polarisation magnétique spécifiées

Magnetische Werkstoffe - Anforderungen an Elektroband und -blech mit festgelegten mechanischen Eigenschaften und magnetischer Polarisation

This European Standard was approved by CEN on 27 October 2024.

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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
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 10265:2024) has been prepared by Technical Committee CEN/TC 459/SC 8 “Steel sheet and strip for electrical applications”, 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of an identical text or by endorsement, at the latest by May 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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 10265:1995.

In comparison with the previous edition EN 10265:1995, the following technical modifications have been made:

- the title of the document has been amended;
- to take into account the revision of the geometrical characterization of EN 10251;
- to include the residual curvature for sheets regarding the internal coil diameter for hot-rolled grades;
- to clarify in the surface condition text how precautions against oxidation can be taken;
- to include in the technical requirements too higher strength new cold-rolled grades;
- to rationalize the tables in the geometrical characteristics and tolerances;
- to clarify the density to be used for the magnetic measurements;
- to reduce the minimum number of Epstein test strips for the magnetic property measurement;
- to add a paragraph on the marking, labelling and packaging;
- to add a clarification on the information to be supplied by the purchaser.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document defines the grades of electrical steel strip and sheet with specified mechanical properties and magnetic polarization. It specifies general requirements, mechanical properties, magnetic polarization, geometric characteristics, tolerances and technological characteristics, as well as inspection procedures.

This document applies to electrical steel strip and sheet for the construction of poles and rims of rotating electrical machines.

The grades are grouped into two classes according to their manufacturing process:

- hot-rolled grades;
- cold-rolled grades.

NOTE These materials correspond to EN 60404-1:2017, D.2.

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.

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

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

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

EN 10251:2024, *Magnetic materials — Methods of determination of the geometrical characteristics of electrical steel sheet and strip*

EN 60404-2, *Magnetic materials — Part 2: Methods of measurement of the magnetic properties of electrical steel strip and sheet by means of an Epstein frame (IEC 60404-2)*

EN 60404-4, *Magnetic materials — Part 4: Methods of measurement of d.c. magnetic properties of magnetically soft materials (IEC 60404-4)*

EN IEC 60404-13, *Magnetic materials — Part 13: Methods of measurement of resistivity, density and stacking factor of electrical steel strip and sheet (IEC 60404-13)*

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

3 Terms and definitions

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

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>