BS EN 10251:2024

BSI Standards Publication

Magnetic materials — Methods of determination of the geometrical characteristics of electrical steel sheet and strip

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The UK participation in its preparation was entrusted to Technical Committee ISE/108, Magnetic Alloys and Steels.

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

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English Version

Magnetic materials - Methods of determination of the geometrical characteristics of electrical steel sheet and strip

Matériaux magnétiques - Méthodes de détermination des caractéristiques géométrique des bandes et tôles en acier électrique

Magnetische Werkstoffe - Verfahren zur Bestimmung der geometrischen Kenngrößen von Elektroblech und -band

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European foreword

This document (EN 10251:2024) 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of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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 10251:2015.

The main changes compared to the previous edition are as follows:

— the definitions have been updated, in particular replacement of “flatness” with “edge wave”;

— the test methods have been amended as follows:

  — edge wave: the requirements for the test specimen and the measuring procedure have been updated;

  — residual curvature: the horizontal method has been added (the residual curvature can be made with both a vertical and a horizontal method);

  — edge camber: the requirements for the test specimen and the measuring procedure have been updated;

  — deviation from the shearing line due to internal stresses: the requirements for the test specimen and the measuring procedure have been updated;

  — burr height: the requirements for the test specimen and the measuring procedure have been updated, and the measuring procedure using a hand-held micrometre for the thickness has been added;

— the test report has been updated.

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1 Scope

This document is intended to define the test methods used for the determination of the following geometrical characteristics of electrical steel sheet and strip:

— edge wave;

— residual curvature;

— edge camber;

— deviation from the shearing line due to internal stresses;

— burr height of cut edges.

This document applies to electrical steel sheet and strip intended for the construction of magnetic circuits and corresponding to Clauses B2, C21, C22 and C23 of EN 60404-1:2017.

2 Normative references

There are no normative references in this document.

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

3.1
edge wave
wave factor
variation of flatness of a length of strip or sheet taking a form of waves at the slit edge of the product after longitudinal side trimming or slitting; characterised by the wave factor, i.e. by the relation of the height of the wave to its length

Note 1 to entry: For examples of waves, see Figure 1.

3.2
residual curvature
variations of flatness of a length of unwound strip or a sheet taking a permanent curvature in the direction of rolling of the product

3.3
edge camber
greatest distance between a longitudinal edge of a length of strip or a sheet and the line joining the two extremities of the measured length of this edge

Note 1 to entry: See Figure 5.

[SOURCE: IEC 60404-9:2018, definition 3.3]

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