
Magnetni materiali - 12. del: Metode preskušanja za oceno toplotne vzdržljivosti površinskih izolacijskih premazov na električnih jeklenih trakovih in pločevinah (IEC 60404-12:2023)

Magnetic materials - Part 12: Methods of test for the assessment of the thermal endurance of surface insulation coatings on electrical steel strip and sheet (IEC 60404-12:2023)

Magnetische Werkstoffe - Teil 12: Prüfverfahren zur Bewertung der thermischen Beständigkeit von Oberflächenisolierbeschichtungen auf Elektroband und -blech (IEC 60404-12:2023)

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Matériaux magnétiques - Partie 12: Méthodes d'essai pour l'évaluation de l'endurance thermique des revêtements isolants superficiels des bandes et tôles en acier électrique (IEC 60404-12:2023)

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29.030	Magnetni materiali	Magnetic materials

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**Magnetic materials - Part 12: Methods of test for the assessment
of the thermal endurance of surface insulation coatings on
electrical steel strip and sheet
(IEC 60404-12:2023)**

Matériaux magnétiques - Partie 12: Méthodes d'essai pour
l'évaluation de l'endurance thermique des revêtements
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Magnetische Werkstoffe - Teil 12: Prüfverfahren zur
Bewertung der thermischen Beständigkeit von
Oberflächenisolierbeschichtungen auf Elektroband und -
blech
(IEC 60404-12:2023)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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EN IEC 60404-12:2023 (E)**European foreword**

The text of document 68/698/CDV, future edition 2 of IEC 60404-12, prepared by IEC/TC 68 "Magnetic alloys and steels" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60404-12:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-12-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-03-17

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iTeh STANDARD PREVIEW

The text of the International Standard IEC 60404-12:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

<https://standards.iteh.ai/catalog/standards/sist/11e6dfd8-1c69-4fd7-a378-29471a9bf8e3/sist-iec-60216-1> NOTE Approved as EN 60216-1:2023

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-121	-	International Electrotechnical Vocabulary - Part 121: Electromagnetism	-	-
IEC 60050-221	-	International Electrotechnical Vocabulary. Chapter 221: Magnetic materials and components	-	-
IEC 60404-1-1	-	Magnetic materials - Part 1-1: Classification - Surface insulations of electrical steel sheet, strip and laminations	-	-
IEC 60404-11	-	Magnetic materials - Part 11: Method of test for the determination of surface insulation resistance of magnetic sheet and strip	-	-
IEC 60404-13	-	Magnetic materials - Part 13: Methods of measurement of resistivity, density and stacking factor of electrical steel strip and sheet	EN IEC 60404-13	-
ISO 1519	-	Paints and varnishes - Bend test (cylindrical mandrel)	EN ISO 1519	-



INTERNATIONAL STANDARD

NORME INTERNATIONALE

Magnetic materials –

Part 12: Methods of test for the assessment of the thermal endurance of surface insulation coatings on electrical steel strip and sheet

Matériaux magnétiques –

Partie 12: Méthodes d'essai pour l'évaluation de l'endurance thermique des revêtements isolants superficiels des bandes et tôles en acier électrique

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MAGNETIC MATERIALS –**Part 12: Methods of test for the assessment of the thermal endurance of surface insulation coatings on electrical steel strip and sheet****FOREWORD**

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IEC 60404-12 has been prepared by IEC technical committee 68: Magnetic alloys and steels. It is an International Standard.

This second edition cancels and replaces the first edition published in 1992. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the method of test for adhesion has been modified to match to the method of bend test specified in ISO 1519 using a cylindrical mandrel of 32 mm in diameter instead of the 30 mm diameter mandrel specified in the first edition;
- b) the method of test for interlaminar insulation resistance has been modified to match to the method specified in IEC 60404-11 and the modified Franklin test has been removed;
- c) the method of test for compressibility has been modified to match to the method of test for stacking factor specified in IEC 60404-13;

- d) the concept of "resistance grades" has been removed;
- e) the clamping pressure to be used at temperature ratings above 500 °C has been reduced to $(0,01 \pm 0,001) \text{ N/mm}^2$;
- f) the testing for continuous exposure has been made a subject to an agreement between the manufacturer and the purchaser and the procedure has been moved to an informative Annex A.

The text of this International Standard is based on the following documents:

Draft	Report on voting
68/698/CDV	68/720/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60404 series, published under the general title *Magnetic materials*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.