

**SLOVENSKI STANDARD**  
**SIST EN 60404-2:2002/A1:2008**  
**01-november-2008**

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Magnetic materials - Part 2: Methods of measurement of the magnetic properties of electrical steel sheet and strip by means of an Epstein frame (IEC 60404-2:1996/A1:2008)

**iTeh STANDARD PREVIEW**  
 (standard.itteh.si)

Magnetische Werkstoffe - Teil 2: Verfahren zur Bestimmung der magnetischen Eigenschaften von Elektroblech und -band mit Hilfe eines Epsteinrahmens (IEC 60404-2:1996/A1:2008)

[SIST EN 60404-2:2002/A1:2008](https://standards.itteh.ai/catalog/standards/sist/bc251415-7799-4615-articles/standard/60404-2:2002/A1:2008)

<https://standards.itteh.ai/catalog/standards/sist/bc251415-7799-4615-articles/standard/60404-2:2002/A1:2008>

Matériaux magnétiques - Partie 2: Méthodes de mesure des propriétés magnétiques des tôles et bandes magnétiques au moyen d'un cadre Epstein (CEI 60404-2:1996/A1:2008)

**Ta slovenski standard je istoveten z: EN 60404-2:1998/A1:2008**

**ICS:**

17.220.20	T ^ b} b`Á `dã} ãã { æ } ^ç ãã ^ ã ã	Measurement of electrical and magnetic quantities
29.030	Magnetni materiali	Magnetic materials

**SIST EN 60404-2:2002/A1:2008 en,fr**

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SIST EN 60404-2:2002/A1:2008

<https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4615-bd13-e43c1246d7ef/sist-en-60404-2-2002-a1-2008>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60404-2/A1**

July 2008

ICS 29.030; 17.220.20

English version

**Magnetic materials -  
Part 2: Methods of measurement of the magnetic properties  
of electrical steel sheet and strip by means of an Epstein frame  
(IEC 60404-2:1996/A1:2008)**

Matériaux magnétiques -  
Partie 2: Méthodes de mesure  
des propriétés magnétiques des tôles  
et bandes magnétiques au moyen  
d'un cadre Epstein  
(CEI 60404-2:1996/A1:2008)

Magnetische Werkstoffe -  
Teil 2: Verfahren zur Bestimmung  
der magnetischen Eigenschaften  
von Elektroblech und -band  
mit Hilfe eines Epsteinrahmens  
(IEC 60404-2:1996/A1:2008)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

This amendment A1 modifies the European Standard EN 60404-2:1998; it was approved by CENELEC on 2008-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 68/365/FDIS, future amendment 1 to IEC 60404-2:1996, prepared by IEC TC 68, Magnetic alloys and steels, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60404-2:1998 on 2008-06-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-03-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2011-06-01

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## Endorsement notice

The text of amendment 1:2008 to the International Standard IEC 60404-2:1996 was approved by CENELEC as an amendment to the European Standard without any modification.

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[SIST EN 60404-2:2002/A1:2008](https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4615-bd13-e43c1246d7ef/sist-en-60404-2-2002-a1-2008)

<https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4615-bd13-e43c1246d7ef/sist-en-60404-2-2002-a1-2008>

**Replace Annex ZA of EN 60404-2:1998 by:**

**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-221	- <sup>1)</sup>	International Electrotechnical Vocabulary (IEV) - Chapter 221: Magnetic materials and components	-	-
IEC 60404-4	- <sup>1)</sup>	Magnetic materials - Part 4: Methods of measurement of d.c. magnetic properties of magnetically soft materials	EN 60404-4	1997 <sup>2)</sup>
IEC 60404-8-3	- <sup>1)</sup>	Magnetic materials - Part 8-3: Specifications for individual materials - Cold-rolled electrical non-alloyed and alloyed steel sheet and strip delivered in the semi-processed state	-	-
IEC 60404-8-4	- <sup>1)</sup>	Magnetic material - Part 8-4: Specifications for individual materials - Cold-rolled non-oriented electrical steel sheet and strip delivered in the fully-processed state	-	-
IEC 60404-8-7	- <sup>1)</sup>	Magnetic materials - Part 8-7: Specifications for individual materials - Cold-rolled grain-oriented electrical steel strip and sheet delivered in the fully-processed state	-	-
IEC 60404-10	- <sup>1)</sup>	Magnetic materials - Part 10: Methods of measurement of magnetic properties of magnetic steel sheet and strip at medium frequencies	-	-
IEC 60404-13	- <sup>1)</sup>	Magnetic materials - Part 13: Methods of measurement of density, resistivity and stacking factor of electrical steel sheet and strip	EN 60404-13	2007 <sup>2)</sup>

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition a date of issue.

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SIST EN 60404-2:2002/A1:2008

<https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4615-bd13-e43c1246d7ef/sist-en-60404-2-2002-a1-2008>



IEC 60404-2

Edition 3.0 2008-04

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

**Magnetic materials – Part 2: Methods of measurement of magnetic properties of electrical steel strip and sheet by means of an Epstein frame**

**Matériaux magnétiques – Partie 2: Méthodes de mesure des propriétés magnétiques des bandes et tôles magnétiques en acier au moyen d'un cadre Epstein**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX



## FOREWORD

This amendment has been prepared by IEC technical committee 68: Magnetic alloys and steels.

The text of this amendment is based on the following documents:

FDIS	Report on voting
68/365/FDIS	68/369/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

## iTeh STANDARD PREVIEW (standards.iteh.ai)

### Title

In the title of the standard, replace "steel sheet and strip" with "steel strip and sheet":  
<https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4619-bd13-e43c1246d7ef/sist-en-60404-2-2002-a1-2008>

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## 2 Normative references

*Replace the introductory paragraph and the existing references by the following:*

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.

IEC 60050-221, *International Electrotechnical Vocabulary – Chapter 221: Magnetic materials and components*

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

IEC 60404-8-3, *Magnetic materials – Part 8-3: Specifications for individual materials – Cold-rolled electrical non-alloyed and alloyed steel sheet and strip delivered in the semi-processed state*

IEC 60404-8-4, *Magnetic materials – Part 8-4: Specifications for individual materials – Cold-rolled non-oriented electrical steel sheet and strip delivered in the fully-processed state*

IEC 60404-8-7, *Magnetic materials – Part 8-7: Specifications for individual materials – Cold-rolled grain-oriented electrical steel sheet and strip delivered in the fully-processed state*



IEC 60404-10, *Magnetic materials – Part 10: Methods of measurement of magnetic properties of magnetic sheet and strip at medium frequencies*

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

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### **3.6 Voltage measurement**

*Introduce, after the existing paragraph, and before 3.6.1, the following note:*

NOTE For the application of digital sampling methods, see Annex A.

### **3.7 Frequency measurement**

*Introduce, after the existing paragraph, the following note:*

NOTE For the application of digital sampling methods, see Annex A.

### **3.8 Power measurement**

*Introduce, after the first paragraph, the following note:*

NOTE For the application of digital sampling methods, see Annex A.

## **4 Procedure for the measurement of the specific total loss**

*Introduce, after the clause heading, the following note:*

NOTE For the application of digital sampling methods, see Annex A.

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(standards.iteh.ai)

SIST EN 60404-2:2002/A1:2008

<https://standards.iteh.ai/catalog/standards/sist/bc251415-7799-4615->

60404-2:2002/A1:2008