



BSI Standards Publication

Magnetic materials

Part 2: Methods of measurement of the magnetic properties of
electrical steel strip and sheet by means of an Epstein frame

National foreword

This British Standard is the UK implementation of EN 60404-2:1998+A1:2008. It is identical to IEC 60404-2:1996+A1:2008, incorporating corrigendum March 2018. It supersedes BS EN 60404-2:1998, which is withdrawn.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by IEC corrigendum March 2018 is indicated in the text by AC1 AC1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment A1 is indicated by A1 A1.

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 secretary.

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Amendments/corrigenda issued since publication

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10038	July 1998	BS 6404-2:1996 renumbered as BS EN 60404-2:1998
	31 January 2009	Implementation of IEC amendment 1:2008 with CENELEC endorsement A1:2008
	31 October 2018	Implementation of IEC corrigendum March 2018

**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)**

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)

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

This European Standard was approved by CENELEC on 1998-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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.

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CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and 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

European foreword

The text of the International Standard IEC 60404-2:1996, prepared by IEC TC 68, Magnetic alloys and steels, was submitted to the formal vote and was approved by CENELEC as EN 60404-2 on 1998-01-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1998-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELC.

Endorsement notice

The text of the International Standard IEC 60404-2:1996 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

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

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.

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	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 221: Magnetic materials and components	-	-
IEC 60404-4	- ¹⁾	Magnetic materials - Part 4: Methods of measurement of d.c. magnetic properties of magnetically soft materials	EN 60404-4	1997 ²⁾
IEC 60404-8-3	- ¹⁾	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	- ¹⁾	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	- ¹⁾	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	- ¹⁾	Magnetic materials - Part 10: Methods of measurement of magnetic properties of magnetic steel sheet and strip at medium frequencies	-	-
IEC 60404-13	- ¹⁾	Magnetic materials - Part 13: Methods of measurement of density, resistivity and stacking factor of electrical steel sheet and strip	EN 60404-13	2007 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition a date of issue.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MAGNETIC MATERIALS –

Part 2: Methods of measurement of the magnetic properties of electrical A_1 steel strip and sheet A_1 by means of an Epstein frame

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 404-2 has been prepared by IEC technical committee 68: Magnetic alloys and steels.

This third edition cancels and replaces the second edition published in 1978 and constitutes a technical revision.

This standard supersedes chapters I, II, IV and V of IEC 404-2: 1978.

The standard IEC 404-11 supersedes chapter VIII of IEC 404-2: 1978.

The standard IEC 404-13 supersedes chapters VI, VII and IX of IEC 404-2: 1978.

Chapter III of IEC 404-2: 1978 is cancelled.

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

FDIS	Report on voting
68/119/FDIS	68/135/RVD

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