

Safety in electroheat installations —

Part 11: Particular requirements for installations using the effect of electromagnetic forces on liquid metals

The European Standard EN 60519-11:2007 has the status of a British Standard

ICS 25.180.10

National foreword

This British Standard is the UK implementation of EN 60519-11:2007. It is identical to IEC 60519-11:2007. It supersedes BS EN 60519-11:1997 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/27, Electroheating.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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**Safety in electroheat installations -
Part 11: Particular requirements for installations
using the effect of electromagnetic forces on liquid metals
(IEC 60519-11:2007)**

Sécurité dans les installations
électrothermiques -
Partie 11: Exigences particulières
pour les installations utilisant l'effet
des forces électromagnétiques
sur les métaux liquides
(CEI 60519-11:2007)

Sicherheit in Elektrowärmeanlagen -
Teil 11: Besondere Anforderungen
an Anlagen, die die Wirkung
elektromagnetischer Kräfte
auf flüssige Metalle nutzen
(IEC 60519-11:2007)

This European Standard was approved by CENELEC on 2007-09-01. 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.

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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

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

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Foreword

The text of document 27/577/FDIS, future edition 2 of IEC 60519-11, prepared by IEC TC 27, Industrial electroheating equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60519-11 on 2007-09-01.

This European Standard supersedes EN 60519-11:1997.

The significant changes with respect to EN 60519-11:1997 are as follows:

- EN 60519-1:2003 and EN 60519-3:2005 have been taken into account;
- definitions have been brought into line with IEC 60050-841:2004.

This standard is to be used in conjunction with EN 60519-1:2003. It is intended to specify particular requirements for installations using the effect of electromagnetic forces on liquid metals.

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) | 2008-06-01 |
| – latest date by which the national standards conflicting
with the EN have to be withdrawn | (dow) | 2010-09-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60519-11:2007 was approved by CENELEC as a European Standard without any modification.

CONTENTS

1	Scope	4
2	Normative references	4
3	Terms and definitions	5
4	Inductor	6
5	Capacitors	6
6	Mains-frequency power sources	7
7	Solid-state frequency converters	7
8	Switchgear	8
9	Cables, wires and busbars	8
10	Liquid cooling	9
11	Rating plate	9
12	Clearance and creepage distances	10
13	Protection against electric shock	10
13.1	Protection against direct contact	10
13.1.1	Permissible touch voltage as a function of frequency	10
13.1.2	Accessibility of electrical equipment	10
13.1.3	Accessible plugs and sockets	10
13.1.4	Special requirements for live conductors at voltage bands 2 and 3	10
13.2	Protection against indirect contact	11
13.2.1	Permissible touch voltage as a function of duration and frequency	11
13.2.2	Electrical insulation resistance	11
13.3	Special requirements	11
13.4	Earthing provisions	12
13.5	Protective conductors	12
14	Radio interferences	13
15	Operation instructions	13
Annex A (normative) Specific requirements for electromagnetic pouring equipment		14
Annex B (normative) Specific requirements for electromagnetic equipment with lining		15
Annex ZA (normative) Normative references to international publications with their corresponding European publications		16

SAFETY IN ELECTROHEAT INSTALLATIONS –

Part 11: Particular requirements for installations using the effect of electromagnetic forces on liquid metals

1 Scope

This part of IEC 60519 applies to installations predominantly using the effect of electromagnetic forces on liquid metals:

- installations for electromagnetic (induction) stirring or transport of liquid metals at low frequencies;
- installations that influence the pouring process by an electromagnetic field;
- parts directly affected by the electromagnetic stirring, transport or pouring installation.

Examples of application:

- stirring devices for casting machines, arc furnaces, ladles, etc.;
- transport of liquid metal for emptying or filling furnaces, launders or moulds;
- devices to transport liquid metal with simultaneous proportioning of the transported quantity, for example, for filling diecasting machines;
- influencing the ingot surface or the pouring stream enhancing crystallization by means of an electromagnetic field during continuous casting;
- sealing of mechanical gaps of melt vessels, for example, in vertical galvanizing line.

This standard consists of

- requirements common to installations using the effect of electromagnetic forces on liquid metals;
- specific requirements for electromagnetic pouring equipment (Annex A);
- specific requirements for electromagnetic equipment with lining (Annex B).

NOTE When applying IEC 60519-1 in conjunction with this standard, the terms "electroheat installation" or "electroheat device" should be replaced by the term "installation using the effect of electromagnetic forces on liquid metals".

2 Normative references

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 60050-841:2004, *International Electrotechnical Vocabulary – Part 841: Industrial electroheat*

IEC 60110-1:1998, *Power capacitors for induction heating installations – Part 1: General*