BS EN IEC 63078:2020

BSI Standards Publication

Installations for electroheating and electromagnetic processing — Test methods for induction through-heating installations

National foreword

This British Standard is the UK implementation of EN IEC 63078:2020. It is identical to IEC 63078:2019.

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.

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English Version

Installations for electroheating and electromagnetic processing - Test methods for induction through-heating installations (IEC 63078:2019)

Installations pour traitement électrothermique et électromagnétique - Méthodes d'essai pour les installations de chauffage par induction (IEC 63078:2019)

Elektrowärmeanlagen und Anlagen für elektromagnetische Bearbeitungsprozesse - Prüfverfahren für induktive Durcherwärmungsanlagen (IEC 63078:2019)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 27/1118/FDIS, future edition 1 of IEC 63078, prepared by IEC/TC 27 "Industrial electroheating and electromagnetic processing" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63078:2020.

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)	2020-09-27
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2022-12-27

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The text of the International Standard IEC 63078:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62076:2006	NOTE	Harmonized as EN 62076:2006 (not modified)
IEC 60683:2011	NOTE	Harmonized as EN 60683:2012 (not modified)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INSTALLATIONS FOR ELECTROHEATING AND ELECTROMAGNETIC PROCESSING – TEST METHODS FOR INDUCTION THROUGH-HEATING INSTALLATIONS

FOREWORD

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International Standard IEC 63078 has been prepared by IEC technical committee 27: Industrial electroheating and electromagnetic processing.

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

FDIS	Report on voting
27/1118/FDIS	27/1119/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This International Standard is to be used in conjunction with IEC 60398:2015.

The clauses of this document supplement, modify or replace clauses of IEC 60398. When this document states “addition”, "modification" or “replacement”, the relevant text in IEC 60398 is to be adapted accordingly.

Subclauses which are additional to those in IEC 60398 are numbered starting from 101. Additional annexes are numbered AA, BB, etc.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC web site under "http://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.

INTRODUCTION

Induction through-heating and induction melting are very important applications of induction heating. However, an induction through-heating installation is more complex than an induction melting furnace, as it includes more heating manners, varieties and sizes. In addition, some performance tests which are very useful to users, for example the determination of temperature homogeneity of billets and energy efficiency of the installation, are not easy to carry out.

Induction through-heating installations are widely used in many industries for example machine building and metallurgy, for heating billets or workpieces of alloy steel, copper, aluminum, etc. before their subsequent hot forming (e.g. forging, extruding and rolling), with clean and fast heating, easy temperature control and automation as well as a high degree of energy-saving.

This document was prepared on the basis of IEC 60398:2015, with some references made to IEC 62076:2006 and “Induction Heating – Industrial Applications” published by UIE in 1992.

INSTALLATIONS FOR ELECTROHEATING AND ELECTROMAGNETIC PROCESSING – TEST METHODS FOR INDUCTION THROUGH-HEATING INSTALLATIONS

1 Scope

This clause of IEC 60398:2015 is replaced by the following.

This document specifies the test procedures, conditions and methods for determining the main performance parameters and operational characteristics of induction through-heating installations.

Measurements and tests that are solely used for the verification of safety requirements of the installations are outside the scope of this document and are covered by IEC 60519-1 and IEC 60519-3.

This document is applicable to the induction heating installations which through-heat the whole or part of metal billet or workpiece for its subsequent hot forming (e.g. forging, extruding and rolling), using low, mains or medium frequencies. It is possible to use it as a reference for other induction heating installations for heat-treatment and other purposes as well as superconducting DC induction through-heating installations.

This document includes the concept and material on energy efficiency dealing with the electrical and processing parts of the installations, as well as the overall performance.

2 Normative references

This clause of IEC 60398:2015 is applicable except as follows.

Replacement:

The following standards are referred to in the text in such a way that some or all of their contents constitutes requirements of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced standard (including any amendments) applies.

Modification:

Delete footnotes

Additions:

IEC 60398:2015, *Installations for electroheating and electromagnetic processing – General performance test methods*

IEC 60519-1:—[1], *Safety in installations for electroheating and electromagnetic processing – Part 1: General requirements*

[1] Sixth edition under preparation. Stage at the time of publication: IEC PRVC 60519-1:2019.