

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Safety in installations for electroheating and electromagnetic processing –  
Part 1: General requirements**

**Sécurité dans les installations destinées au traitement électrothermique et  
électromagnétique –  
Partie 1: Exigences générales**



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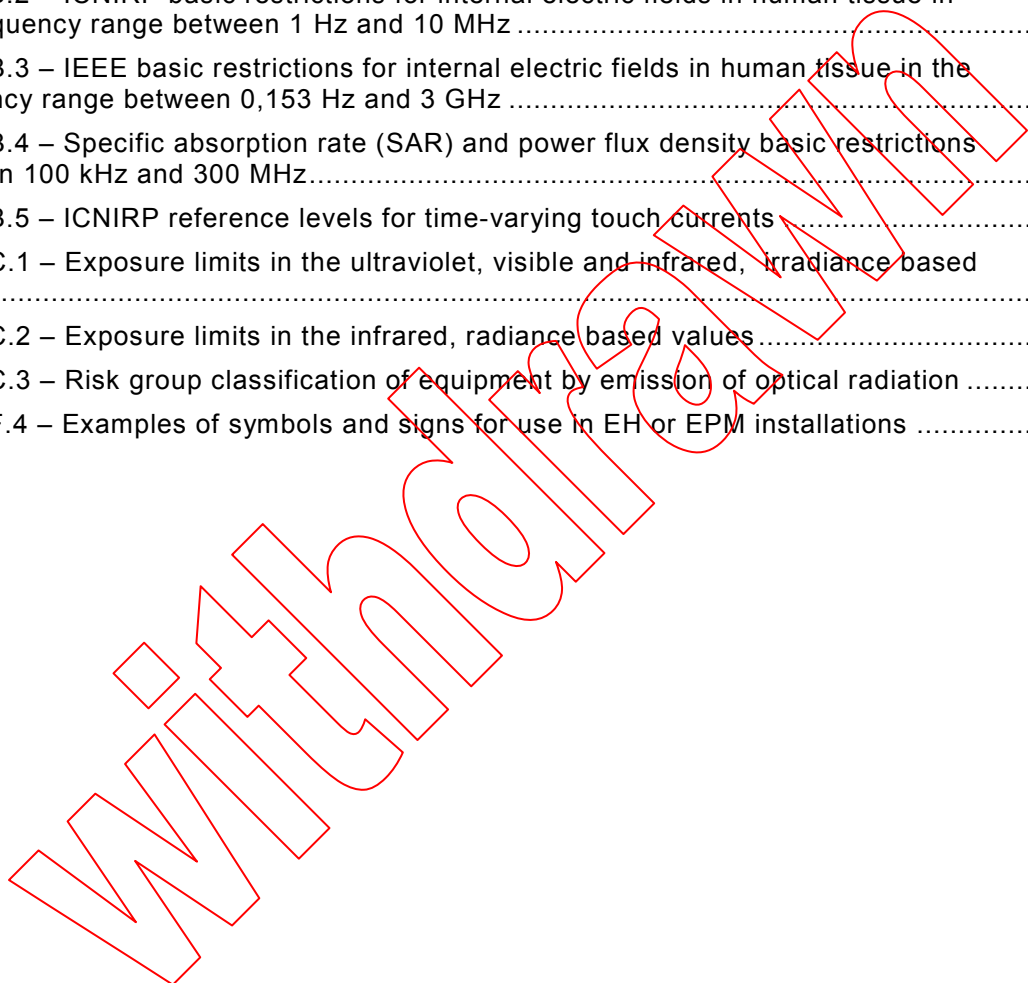
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**SAFETY IN INSTALLATIONS FOR ELECTROHEATING  
AND ELECTROMAGNETIC PROCESSING –****Part 1: General requirements**

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International Standard IEC 60519-1 has been prepared by IEC technical committee 27: Industrial electroheating and electromagnetic processing.

This fifth edition cancels and replaces the fourth edition published in 2010. This edition constitutes a technical revision.

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

- a) The title and scope of the standard has been expanded to include installations and equipment for electromagnetic processing of materials.
- b) Terms and definitions as well as the list of normative references have been updated and completed with new items.
- c) The requirements have been restructured.

- d) Additional requirements for electric and magnetic fields, for touch currents as well as for optical radiation have been added.
- e) New clauses addressing verification have been added.
- f) New annexes specifying limits of exposure hazards for electric and magnetic fields, optical radiation, noise and vibration have been added.
- g) New annexes on EMC, markings and warnings, guidelines for using this standard and information on the connection to ISO 13577-1 have been added.

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

FDIS	Report on voting
27/947/FDIS	27/951/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.

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

A list of all parts in the IEC 60519 series, published under the general title *Safety in installations for electroheating and electromagnetic processing*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

In this standard, the following print types are used:

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- NOTES: in smaller roman type;
- terms used throughout this standard which have been defined in Clause 3: **in bold type**.

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## INTRODUCTION

This fifth edition of IEC 60519-1 is a product safety publication and is intended to:

- include all types of installations or equipment that are in the scope of IEC TC 27 dealing with industrial **electroheating (EH)** and **electromagnetic processing of materials (EPM)**;
- cover in these General Requirements all hazards that are relevant for more than one type of equipment or installation individually dealt with in Particular Requirements;
- give requirements on electrical safety, touch currents, electric fields, magnetic fields and radiation, thus mirroring the broad scope of installations covered and their processing frequency;
- give means for verification of the requirements;
- make extensive use of the standards developed by IEC committees with horizontal or group safety functions and of relevant ISO standards by reference, including publications developed by ISO/TC 244 (more information is given in Annex H), in compliance with IEC Guide 104;
- be useable like a type-C standard in the sense of ISO 12100;
- include all material, references and requirements suitable for risk assessment and list significant hazards.

This standard addresses mainly **manufacturers** making made-to-order equipment on a single project base. The **manufacturer** is well aware that it is his responsibility to make equipment safe through adequate risk reduction and it is the responsibility of the **user** to assess exposure of the **operator** in line with applicable health and safety regulations. Looking at projects providing single pieces of equipment or single installations, this clear division of responsibilities tends to blur, caused by inter alia

- development of the process (**normal operation**) through the **manufacturer** and **user**,
- shared definition of working procedures for the **operator** by the **manufacturer** and **user**,
- the scope of delivery often including all protective means,
- individual sales contracts where **users** require an assessment of exposure through the **manufacturer**.

Thus this standard provides information on exposure hazards and limits where relevant, well aware that this is exceeding the scope of a product standard.