



National Standards Authority of Ireland  
Údarás um Chaighdeáin Náisiúnta na hÉireann

IRISH STANDARD

**I.S. EN 50445:2008**

ICS 17.220.01  
25.160.10

**"PRODUCT FAMILY STANDARD TO  
DEMONSTRATE COMPLIANCE OF  
EQUIPMENT FOR RESISTANCE WELDING,  
ARC WELDING AND ALLIED PROCESSES  
WITH THE BASIC RESTRICTIONS  
RELATED TO HUMAN EXPOSURE TO  
ELECTROMAGNETIC FIELDS (0 HZ - 300  
GHZ)"**

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*This Irish Standard was  
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comes into effect on:  
14 April 2008*

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EUROPEAN STANDARD

**EN 50445**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2008

ICS 17.220.01; 25.160.10

English version

**Product family standard to demonstrate compliance of equipment  
for resistance welding, arc welding and allied processes with the basic  
restrictions related to human exposure to electromagnetic fields  
(0 Hz - 300 GHz)**

Norme de famille de produit pour démontrer la conformité d'un équipement pour le soudage par résistance, le soudage à l'arc et les techniques connexes avec les restrictions de base concernant l'exposition des personnes aux champs électromagnétiques (0 Hz - 300 GHz)

Produktfamilienorm zur Konformitätsprüfung von Einrichtungen zum Widerstandsschweißen, Lichtbogenschweißen und artverwandten Prozessen in Bezug auf die bei der Exposition durch elektromagnetische Felder anzuwendenden Basisgrenzwerte (0 Hz - 300 GHz)

This European Standard was approved by CENELEC on 2008-02-01. 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.

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

This European Standard was prepared by the Technical Committee CENELEC TC 26A, Electric arc welding equipment.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50445 on 2008-02-01.

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) 2009-02-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2011-02-01

This European Standard is to be read in conjunction with EN 50444 and EN 50505. The latter was prepared by the Technical Committee CENELEC TC 26B, Electric resistance welding.

This European Standard has been prepared under mandates M/305 and M/351 given to CENELEC by the European Commission and the European Free Trade Association.

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## 1 Scope

This product family standard applies to equipment for resistance welding, arc welding and allied processes designed for use in industrial or domestic environments, including welding power sources, wire feeders and ancillary equipment, e.g. torches, liquid cooling systems and arc striking and stabilising devices.

NOTE 1 Allied processes are for example resistance hard and soft soldering, resistance heating by means comparable to resistance welding equipment, electric arc cutting and arc spraying.

The frequency range covered is 0 Hz to 300 GHz.

This product family standard may be used to demonstrate compliance with the requirements of Directive 2006/95/EC [1] (needed for placing electric welding equipment on the European market), with regard to the limitation of human exposure to electromagnetic fields (EMF). There are additional requirements in the Directive, which are not included in this product family standard.

NOTE 2 The Directive 2006/95/EC [1], Article 2, stipulates that the Member States take all appropriate measures to ensure that electrical equipment may be placed on the market only if, having been constructed in accordance with good engineering practice in safety matters in force in the Community.

This product family standard may also be used for assessment regarding the requirements of Directive 2004/40/EC [3] on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) or Recommendation 1999/519/EC [2] on the limitation of exposure of the general public to electromagnetic fields, provided that no other relevant field sources are present in close proximity. If other relevant field sources are present, additional assessment is necessary.

NOTE 3 It should be noted that the supplier of specific equipment might not know the overall exposure environment in which the equipment is being used. This product family standard can only be used to assess human exposure from the specific equipment under evaluation when being used in accordance with the suppliers guidelines.

NOTE 4 Assessment procedures for workplaces with multiple field-sources may be found in EN 50499 [7].

Other standards may apply to products covered by this product family standard. In particular this standard can not be used to demonstrate electromagnetic compatibility with other equipment; nor does it specify any product safety requirements other than those specifically related to human exposure to electromagnetic fields.

NOTE 5 Procedures to demonstrate compliance are not specified for the whole frequency range.

## 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.

EN 50392	Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz – 300 GHz)
EN 50444	Basic standard for the evaluation of human exposure to electromagnetic fields from equipment for arc welding and allied processes
EN 50505	Basic standard for the evaluation of human exposure to electromagnetic fields from equipment for resistance welding and allied processes
EN 60974-1	Arc welding equipment – Part 1: Welding power sources (IEC 60974-1)
EN 60974-6	Arc welding equipment – Part 6: Limited duty manual metal arc welding power sources (IEC 60974-6)

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