



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 50187:1999

ICS 29.130.10

**GAS-FILLED COMPARTMENTS FOR A.C.
SWITCHGEAR AND CONTROLGEAR FOR
RATED VOLTAGES ABOVE 1KV AND UP TO
AND INCLUDING 52KV**

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Descriptors: Enclosure, high-voltage switching devices, high-voltage metal-enclosed switchgear and controlgear, pressurized enclosure, gas-filled compartments for rated voltages above 1 kV and up to and including 52 kV

English version

**Gas-filled compartments for a.c. switchgear and
controlgear for rated voltages above 1 kV and
up to and including 52 kV**

Compartiments sous pression de gaz
pour appareillage à courant alternatif de
tensions assignées supérieures à 1 kV
et inférieures ou égales à 52 kV

Gasgefüllte Schotträume für
Wechselstrom-Schaltgeräte und
-Schaltanlagen mit Nennspannungen
über 1 kV bis einschließlich 52 kV

This European Standard was approved by CENELEC on 1995-11-28. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 17C, High-voltage enclosed switchgear and controlgear.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50187 on 1995-11-28.

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) 1996-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1996-12-01

This European Standard is based on the general specifications given in EN 60298:1996 which are however not sufficient to satisfy the conditions for the service allowance of pressurized high-voltage switchgear and controlgear.

These specifications are appropriate for pressurized high-voltage switchgear enclosures allowing an economic production without sacrificing aspects of safety. For unusual shapes dictated by electrical conditions they permit the verification of sound design by proof tests instead of calculations.

For the time being reference can only be made to published European and international standards as far as they are appropriate for the purpose of production of enclosures to be used in gas-filled switchgear and controlgear.

The present European Standard has been established as an international specification for the design, construction, testing and certification of pressurized enclosures used in high-voltage switchgear and controlgear. This standard follows to that extent also article 2 of the Directive 76/767/EEC.

National deviations from this European Standard are listed in annex A (informative).

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Introduction

This standard covers the requirements for the design, construction, testing, inspection and certification of gas-filled compartments for use in AC switchgear and controlgear or for associated gas-filled equipment. Special consideration is given to these compartments for the following reasons:-

- a) *The compartments form the containment of electrical equipment, thus their shape is determined by electrical rather than mechanical considerations.*
- b) *The equipment is operated by competent persons (operators) only.*
- c) *As the thorough drying of the inert, non-corrosive gas-filling medium is fundamental to the satisfactory operation of the electrical equipment it is checked at the original pressurisation and periodically if applicable. For this reasons no internal corrosion allowance is required on the wall thickness of these compartments.*
- d) *The compartments are subjected to only small fluctuations of pressure as the gas-filling density shall be maintained within close limits to ensure satisfactory insulating and arc-quenching properties. Therefore, the compartments are not liable to fatigue due to pressure cycling.*
- e) *The operating pressure is relatively low.*

For the foregoing reasons, and to ensure the minimum disturbance hence reducing the risk of moisture and dust entering the compartments which would prevent correct electrical operation of the switchgear, no pressure tests shall be carried out after installation and before placing in service and no periodic inspection of the compartment interiors or pressure tests shall be carried out after the equipment is placed in service.

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