STANDARDISERINGEN I SVERIGE
SWEDISH STANDARDS INSTITUTION

SVENSK STANDARD SS-EN 50 187

Handläggande organ	Fastställd	Utgåva	Sida	Ingår i
Svenska Elektriska Kommissionen, SEK	1996-11-29	1	1(1+14)	SEK Översikt 17C
				Reg 436 21 67

SIS FASTSTÄLLER OCH UTGER SVENSK STANDARD SAMT SÄLJER NATIONELLA, EUROPEISKA OCH INTERNATIONELLA STANDARDPUBLIKATIONER ©

Gasfyllda celler för ställverk för växelspänning med märkspänning över 1 kV till och med 52 kV

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

Som svensk standard gäller europastandarden EN 50187: 1996. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50187: 1996.

Corrigendum, september 1996, har inarbetats i EN 50187: 1996.

ICS 29.120.60; 29.260.00

Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.
Postadress: SIS, Box 6455, 113 82 STOCKHOLM
Telefon: 08 - 610 30 00. *Telefax*: 08 - 30 77 57

Upplysningar om **sakinnehållet** i standarden lämnas av SEK.
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30

Prisgrupp P

Tryckt i januari 1997

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50187

August 1996

ICS 29.120.60; 29.260.00

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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).

Contents

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 compatiments.

d) The compartments are subjected to only small fluctuations of pressure as the gas-fiiling density shall be maintained within close limits to ensure satisfactory insulatin 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 piacing in service and no periodic inspection of the compartment interiors or pressure tests shall be carried out after the equipment is placed in service.

1 Scope

1.1 Type of equipment

This standard applies to compartments pressurized at a maximum pressure of 3 bar (gauge) and with a maximum product pressure x volume of 2000 bar litres with inert gases, for example sulphur hexafluoride or nitrogen or a mixture of such gases, used in indoor or outdoor installations of AC switchgear and controlgear with rated voltages above 1 kV up to and including 52 kV where the gas is used principally for its dielectric and/or arc-quenching properties.

The compartments comprise parts of electrical equipment not necessarily limited to the following examples:

Circuit breakers
Switch disconnectors
Disconnectors
Earthing switches
Current transformers
Voltage transformers
Busbars and connections
Cable terminations

Gas filled compartments having a design pressure exceeding 3 bar (gauge) or a product pressure x volume exceeding 2000 bar litres shall be designed, manufactured and tested in accordance with one or a combination of the following:

EN 50052
EN 50064
EN 50068
EN 50069

1.2 Quality assurance

The switchgear manufacturer shall be responsible for achieving and maintaining a consistent and adequate quality of product.

Sufficient examinations shall be made by the compartment manufacturer to ensure that the materials, production and testing comply in all respects with the requirements of this standard and ISO 3834. Inspection by user's inspectors shall not absolve the switchgear manufacturer from this responsibility to exercise such quality assurance procedures as to ensure that the requirements and intent of this standard are satisfied.

NOTE:- Reference should be made to the EN ISO 9000 series of standards for quality systems.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 50052	1986	Cast aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear
EN 50064	1989	Wrought aluminium and aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear
EN 50068	1991	Wrought steel enclosures for gas-filled high-voltage switchgear and controlgear
EN 50069	1991	Welded composite enclosures of cast and wrought aluminium alloys for gas-filled high-voltage switchgear and controlgear
EN 60298	1996	A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV (IEC 298:1990 + corrigendum April 1995 + A1:1994)
EN ISO 9000 series		Quality management and quality assurance standards (ISO 9000 series)
ISO 3834	1994	Quality requirements for welding
EN 45020	1993	General terms and their definitions concerning standardization and related activities (ISO/IEC Guide 2:1991)