STANDARDISERINGEN I SVERIGE
SWEDISH STANDARDS INSTITUTION

SVENSK STANDARD SS-EN 50014

Handläggande organ	Fastställd	Utgåva	Ingår i
Svenska Elektriska Kommissionen, SEK	1997-09-26	4	SEK Översikt 31
			Reg 421 08 01

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Explosionsskyddad elektrisk materiel – Allmänna fordringar

Electrical apparatus for potentially explosive atmospheres – General requirements

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Som svensk standard gäller europastandarden EN 50014:1997 jämte Corrigendum:1997. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50014:1997 jämte Corrigendum:1997.

Nationellt förord

Utgåva 4 är föranledd av ny utgåva av EN 50014, vilken är anpassad till EG-direktivet 94/9/EG.

Standarden avses beträffande särskilda utföranden kompletteras eller modifieras av kommande, reviderade utgåvor av nedanstående standarder:

SS-EN 50015	Explosionsskyddad elektrisk materiel - Utförande med olja
SS-EN 50016	Explosionsskyddad elektrisk materiel - Utförande med övertrycksventilation
SS-EN 50017	Explosionsskyddad elektrisk materiel - Utförande med sand
SS-EN 50018	Explosionsskyddad elektrisk materiel - Utförande med explosionstät kapsling
SS-EN 50019	Explosionsskyddad elektrisk materiel - Utförande med höjd säkerhet
SS-EN 50020	Explosionsskyddad elektrisk materiel - Utförande med egensäkerhet
SS-EN 50028	Explosionsskyddad elektrisk materiel - Utförande med ingjutning
SS-EN 50033	Explosionsskyddad elektrisk materiel - Pannlampor för användning i gruvor med explosiv gruvgas
SS-EN 50039	Explosionsskyddad elektrisk materiel - Utförande med egensäkerhet - System.

ICS 29.260.20

Upplysningar om sakinnehållet i standarden lämnas av SEK.
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Prisgrupp S

Tryckt i november 1997

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50014

June 1997

ICS 29.260.20

Supersedes EN 50014:1992

Descriptors: Electrical apparatus, potentially explosive atmosphere, explosive atmosphere, explosion proofing, general requirement, oil immersion "o", pressurized apparatus "p", powder filling "q", flameproof enclosure "d", increased safety "e", intrinsic safety "i", encapsulation "m"

English version

Electrical apparatus for potentially explosive atmospheres General requirements

Matériel électrique pour atmosphères explosibles - Règles générales

Elektrische Betriebsmittel für explosionsgefährdete Bereiche Allgemeine Bestimmungen

This European Standard was approved by CENELEC on 1996-12-09. 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

Ref. No. EN 50014:1997 E

FOREWORD

This European Standard was prepared by the Technical Committee CENELEC TC31, Electrical apparatus for explosive atmospheres - General Requirements.

It consists of the text of EN 50014:1992 and an amendment to this second edition which was submitted to the unique acceptance procedure and approved by CENELEC on 1996-12-09 for inclusion into an "editorial" third edition of the standard.

The European Standard was prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of the EC Directive 94/9/EC.

This European Standard is to be read in conjunction with the third editions of the European Standards for the specific types of protection listed in the scope of this standard. It does not apply in conjunction with the first or second editions of those standards and their amendments published before 1997.

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) 1997-12-01

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

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given only for information.
In this standard, annexes B and C are normative; annexes A, D and E are informative.

CONTENTS

1. SCOPE

1.1 This European Standard specifies the general requirements for construction, testing and marking of:

- electrical apparatus
- Ex cable entries
- Ex components

intended for use in potentially explosive atmospheres of gas, vapour and mist.

Potentially explosive atmospheres include the presence of combustible dusts.

Except where otherwise stated in the supplementary standards, this standard and the related standards provide protection in accordance with Category 2 or Category M2.

1.2 This European Standard is supplemented or modified by the following European Standards concerning the specific types of protection:

EN 50015:	Oil immersion 'o'
EN 50016:	Pressurization 'p'
EN 50017:	Powder filling 'q'
EN 50018:	Flameproof enclosure 'd'
EN 50019:	Increased safety 'e'
EN 50020:	Intrinsic safety 'i'
EN 50028:	Encapsulation 'm'
EN 50033:	Caplights for mines susceptible to firedamp

EN 50039: Intrinsically safe electrical systems 'i'

1.3 The above European Standards and this European Standard are not applicable to the construction of electromedical apparatus, shot-firing exploders, test devices for exploders and for shot-firing circuits.

2. NORMATIVE REFERENCE

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.

EN 50015: Electrical apparatus for potentially explosive atmospheres
Oil immersion 'o'

EN 50016: Electrical apparatus for potentially explosive atmospheres
Pressurization 'p'

EN 50017: Electrical apparatus for potentially explosive atmospheres
Powder filling 'q'

EN 50018: Electrical apparatus for potentially explosive atmospheres
Flameproof enclosure 'd'

EN 50019: Electrical apparatus for potentially explosive atmospheres
Increased safety 'e'

EN 50020: Electrical apparatus for potentially explosive atmospheres
Intrinsic safety 'i'

EN 50028: Electrical apparatus for potentially explosive atmospheres
Encapsulation 'm'

EN 50033: Electrical apparatus for potentially explosive atmospheres
Caplights for mines susceptible to firedamp

EN 50039: Electrical apparatus for potentially explosive atmospheres
Intrinsically safe electrical systems 'i'

EN 60034-5:1991	Rotating electrical machines. Part 5: Classification of degrees of protection provided by enclosures for rotating machines (Modified IEC 34-5 : 1981)
EN 60529:1991	Degrees of protection provided by enclosures (IP Code) IEC 529: 1989
EN 60662: 1993	High pressure sodium vapour lamps (Modified IEC 662: 1980 + A2: 1987 + A3: 1990)
EN 60192: 1993	Low pressure sodium vapour lamps (IEC 192 : 1973 + Amdt 2: 1988 + Amdt 3: 1993)
HD 611.1 S1: 1992	Guide for the determination of thermal endurance properties of electrical insulating materials Part 1: General guidelines for ageing and evaluation of test results (IEC 216-1: 1990)
HD 611.2 S1: 1992	Guide for the determination of thermal endurance properties of electrical insulating materials Part 2: List of materials and available tests. (IEC 216-2: 1990)
IEC 79-1A :1975	First supplement to IEC 79-1 (1971) Electrical apparatus for explosive gas atmospheres - Part 1 : Construction and test of flameproof enclosures of electrical apparatus : Appendix D : Method of test for ascertainment of maximum experimental safe gap.
IEC 79-4: 1975	Electrical apparatus for explosive gas atmospheres Part 4: Method of test for ignition temperature

ISO 48:1979	Vulcanized rubbers - Determination of hardness (Hardness between 30 and 85 IRHD)
ISO 178:1993	Plastics - Determination of flexural properties of rigid plastics
ISO 179:1993	Plastics - Determination of Charpy impact strength of rigid materials
ISO 262:1973	ISO general purpose metric screw threads - Selected sizes for screws, bolts and nuts
ISO 286-2:1988	ISO system of limits and fits - Part 2 Tables of standard tolerance grades and limit deviations for holes and shafts
ISO 527:1993	Plastics - Determination of tensile properties Part 2: Test conditions for moulding and extrusion plastics
ISO 965-1:1980	ISO general purpose metric screw threads - Tolerances - Part 1: Principles and basic data
ISO 965-2:1980	ISO general purpose metric screw threads - Tolerances - Part 2: Limits of sizes for general purpose bolt and nut threads - Medium quality
ISO 1817:1985	Rubber, vulcanised - Determination of the effect of liquids
ISO 1818:1975	Vulcanized rubbers of low hardness (10 to 35 IRHD) - Determination of hardness.
ISO 4014:1988	Hexagon head bolts - Product grades A and B
ISO 4017:1988:	Hexagon head screws - Product grades A and B
ISO 4026:1993	Hexagon socket set screws with flat point
ISO 4027:1993	Hexagon socket set screws with cone point
ISO 4028:1993	Hexagon socket set screws with dog point
ISO 4029:1993	Hexagon socket set screws with cup point
ISO 4032:1986	Hexagon nuts, style 1 - Product grades A and B
ISO 4762:1989	Hexagon socket head cap screws - Product grade A.
ISO 4892-1:1994	Plastics - Methods of exposure to laboratory light sources. Part 1: General guidance