BRITISH STANDARD

BS EN 60079-0:2006
Including Corrigendum No. 1

Electrical apparatus for explosive gas atmospheres —

Part 0: General requirements

The European Standard EN 60079-0:2006 has the status of a British Standard

ICS 29.260.20

BSI British Standards

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 60079-0:2006. It is identical with IEC 60079-0:2004. It supersedes BS EN 60079-0:2004 which will be withdrawn on 1 October 2008.

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by tags (e.g. [C> <C]).

The UK participation in its preparation was entrusted to Technical Committee GEL/31, Equipment for explosive atmospheres.

A list of organizations represented on GEL/31 can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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Part 0: General requirements
(IEC 60079-0:2004, modified)

Matériel électrique pour atmosphères explosives gazeuses
Partie 0: Règles générales
(CEI 60079-0:2004, modifiée)

Elektrische Betriebsmittel für gasexplosionsgefährdete Bereiche
Teil 0: Allgemeine Anforderungen
(IEC 60079-0:2004, modifiziert)

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

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Foreword

The text of document 31/474A/FDIS, future edition 4 of IEC 60079-0, prepared by IEC TC 31, Electrical apparatus for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-0 on 2004-03-01.

A draft amendment to the European Standard EN 60079-0:2004, prepared by the Technical Committee CENELEC TC 31, Electrical apparatus for explosive atmospheres - General requirements, was submitted to the formal vote and was approved by CENELEC on 2005-09-13 to be combined with the published standard and published as new edition of EN 60079-0.

This European Standard supersedes EN 60079-0:2004.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2007-02-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2008-10-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 94/9/EC. See Annex ZZ.

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 60079-0 are prefixed “Z”.

Annexes ZA, ZB and ZZ have been added by CENELEC.

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CONTENTS

INTRODUCTION 7
1 Scope 8
2 Normative references 9
3 Terms and definitions 12
4 Apparatus grouping and temperature classification 18
4.1 Apparatus grouping 18
4.2 Group II 18
5 Temperatures 18
5.1 Environmental influences 18
5.2 Service temperature 19
5.3 Maximum surface temperature 19
5.4 Surface temperature and ignition temperature 20
5.5 Small components 20
6 Requirements for all electrical apparatus 21
6.1 General 21
6.2 Mechanical strength of apparatus 21
6.3 Opening times 21
6.4 Circulating currents 22
6.5 Gasket retention 22
7 Non-metallic enclosures and non-metallic parts of enclosures 23
7.1 General 23
7.2 Thermal endurance 23
7.3 Electrostatic charges on external non-metallic materials of enclosures 23
7.4 Threaded holes 24
8 Enclosures containing light metals 25
8.1 Material composition 25
8.2 Threaded holes 25
Fasteners 25
9.1 General 25
9.2 Special fasteners 26
9.3 Holes for special fasteners 26
10 Interlocking devices 28
11 Bushings 28
12 Materials used for cementing 28
13 Ex components 28
13.1 General 28
13.2 Mounting internal to apparatus 28
13.3 Mounting external to apparatus 29
14 Connection facilities and terminal compartments 29
14.1 General 29
14.2 Connection space 29
14.3 Type of protection 29
14.4 Creepage and clearance 29

15 Connection facilities for earthing or bonding conductors 29
15.1 Internal 29
15.2 External 29
15.3 Apparatus not requiring earthing 30
15.4 Size of conductor connection 30
15.5 Protection against corrosion 30
15.6 Secureness 30
16 Entries into enclosures 31
16.1 General 31
16.2 Identification of entries 31
16.3 Cable glands 31
16.4 Blanking elements 31
16.5 Conductor temperature 31
17 Supplementary requirements for rotating electrical machines 32
17.1 Fans and fan hoods 32
17.2 Ventilation openings for external fans 32
17.3 Construction and mounting of the ventilating systems 33
17.4 Clearances for the ventilating system 33
17.5 Materials for external fans and fan hoods 33
17.6 Equipotential bonding conductors 33
18 Supplementary requirements for switchgear 33
18.1 Flammable dielectric 33
18.2 Disconnectors 34
18.3 Group I – Provisions for locking 34
18.4 Doors and covers 34
19 Supplementary requirements for fuses 35
20 Supplementary requirements for plugs and sockets 35
20.1 Interlocking 35
20.2 Energized plugs 35
21 Supplementary requirements for luminaires 35
21.1 General 35
21.2 Covers 36
21.3 Special lamps 36
22 Supplementary requirements for caplights and handlights 36
22.1 Group I caplights and handlights 36
22.2 Group II caplights and handlights 36
23 Apparatus incorporating cells and batteries 37
23.1 Batteries 37
23.2 Cell types 37
23.3 Cells in a battery 38
23.4 Ratings of batteries 38
23.5 Mixture of cells 38
23.6 Interchangeability 38
23.7 Charging of primary batteries 38
23.8 Leakage 38

23.9 Connections ... 39
23.10 Orientation ... 39
23.11 Replacement of cells or batteries ... 39
24 Documentation ... 39
25 Compliance of prototype or sample with documents ... 39
26 Type tests ... 39
26.1 General ... 39
26.2 Test configuration ... 39
26.3 Tests in explosive test mixtures ... 39
26.4 Tests of enclosures ... 40
26.5 Thermal tests ... 44
26.6 Torque test for bushings ... 45
26.7 Non-metallic enclosures or non-metallic parts of enclosures ... 46
26.8 Thermal endurance to heat ... 46
26.9 Thermal endurance to cold ... 47
26.10 Resistance to light ... 47
26.11 Resistance to chemical agents for Group I electrical apparatus ... 48
26.12 Earth continuity ... 48
26.13 Surface resistance test of parts of enclosures of non-metallic materials ... 49
26.14 Charging tests ... 50
26.15 Measurement of capacitance ... 54
27 Routine verifications and tests ... 54
28 Manufacturer's responsibility ... 54
28.1 Certificate ... 54
28.2 Responsibility for marking ... 54
29 Marking ... 54
29.1 Location ... 55
29.2 General ... 55
29.3 Different types of protection ... 57
29.4 Order of marking ... 58
29.5 Ex components ... 58
29.6 Small apparatus and Ex components ... 58
29.7 Extremely small apparatus and Ex components ... 58
29.8 Warning markings ... 58
29.9 Cells and batteries ... 59
29.10 Examples of marking ... 59
30 Instructions ... 60
30.1 General ... 60
30.2 Cells and batteries ... 61

Annex A (normative) Ex cable glands ... 62
Annex B (normative) Requirements for Ex components ... 69
Annex C (informative) Example of rig for resistance to impact test ... 71
Annex ZA (informative) Classification of Equipment-groups into Categories ... 73
Annex ZB (normative) Normative references to international publications with their corresponding European publications ... 75
Annex ZZ (informative) Coverage of Essential Requirements of EC Directives ... 78

Bibliography 72

Figure 1 – Tolerances and clearance for threaded fasteners 27
Figure 2 – Contact surface under head of fastener with a reduced shank 27
Figure 3 – Illustration of entry points and branching points 32
Figure 4 – Assembly of test sample for earth-continuity test 49
Figure 5 – Test piece with painted electrodes 50
Figure 6 – Rubbing with a pure nylon cloth 52
Figure 7 – Discharging of a container with a probe connected to earth via a 0,1 μF capacitor 53
Figure 8 – Charging by influence with a d.c. voltage power supply 53
Figure A.1 – Illustration of the terms used for cable glands 62
Figure A.2 – Rounded edge of the point of entry of the flexible cable 64
Figure C.1 – Example of rig for resistance to impact test 71

Table 1 – Ambient temperatures in service and additional marking 19
Table 2 – Classification of maximum surface temperatures for Group II electrical apparatus 20
Table 3 – Assessment for T4 classification according to component size and ambient temperature 20
Table 4 – Limitations of areas 24
Table 5 – Minimum cross-sectional area of protective conductors 30
Table 6 – Primary cells 37
Table 7 – Secondary cells 38
Table 8 – Tests for resistance to impact 42
Table 9 – Torque to be applied to the stem of bushing used for connection facilities 46
Table 10 – Text of warning markings 59
Table B.1 – Clauses with which Ex components shall comply 69

INTRODUCTION

It is acknowledged that, with developments in technology, it will be possible to achieve the objectives of the IEC 60079 series of standards in respect of explosion prevention by methods that are not yet fully defined. Where a manufacturer wishes to take advantage of such developments, this International Standard, as well as other standards in the IEC 60079 series, may be applied in part. It is intended that the manufacturer prepare documentation that clearly defines how the IEC 60079 series of standards has been applied, together with a full explanation of the additional techniques employed. In this case, the letter “s” has been reserved to indicate a method of protection that is not fully defined in the standards. Compliance with this standard cannot be claimed in these circumstances.

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES –

Part 0: General requirements

1 Scope

This part of IEC 60079 specifies the general requirements for construction, testing and marking of electrical apparatus and Ex components intended for use in explosive gas atmospheres.

Unless modified by one of the parts in the IEC 60079 series, electrical apparatus complying with this standard is intended for use in hazardous areas in which explosive gas atmospheres, caused by mixtures of air and gases, vapours or mists, exist under normal atmospheric conditions of

- temperature –20 °C to +60 °C;
- pressure 80 kPa (0,8 bar) to 110 kPa (1,1 bar); and
- air with normal oxygen content, typically 21 % v/v.

The application of electrical apparatus in atmospheric conditions outside this range may need special consideration.

NOTE 1 The determination of the maximum surface temperature is based on an operational ambient temperature of –20 °C to +40 °C, if not otherwise specified by the manufacturer. See also 5.1.1.

NOTE 2 In designing apparatus for operation in explosive gas atmospheres under conditions other than the atmospheric conditions given above, this standard may be used as a guide. However, additional testing related specifically to the intended conditions of use is recommended. This is particularly important when the types of protection 'flameproof enclosures "d"' (IEC 60079-1) and 'intrinsic safety "i"' (IEC 60079-11) are applied.

NOTE 3 Requirements given in this standard result from an ignition hazard assessment made on electrical equipment. The ignition sources taken into account are those found associated with this type of equipment, such as hot surfaces, mechanically generated sparks, thermite reactions, electrical arcing and static electric discharge in normal industrial environments. For other ignition sources like adiabatic compression, shock waves, exothermic chemical reaction, self ignition of dust, naked flames, hot gases/liquids the apparatus are subjected to a hazard analysis that identifies and lists all of the potential sources of ignition by the electrical apparatus and the measures to be applied to prevent them becoming effective.

This standard does not specify requirements for safety, other than those directly related to the explosion risk.

This standard is supplemented or modified by the following parts of IEC 60079 concerning specific types of protection:

– IEC 60079-1: Flameproof enclosures "d";
– IEC 60079-2: Pressurized enclosures "p";
– IEC 60079-5: Powder filling "q";
– IEC 60079-6: Oil immersion "o";
– IEC 60079-7: Increased safety "e";
– IEC 60079-11: Intrinsic safety "i";
– IEC 60079-15: Type of protection "n";
– IEC 60079-18: Encapsulation "m".