

ICS 29.260.20

K 35



**NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC
OF CHINA**

中华人民共和国国家标准

GB 3836.3-2010/IEC 60079-7: 2006

Replace GB 3836.3-2000

Explosive atmospheres—

**Part 3: Equipment protection by increased
safety “e”**

爆炸性环境

第 3 部分：由增安型 “e” 保护的 设备

(IEC 60079-7: 2006, IDT)

Issued on August 09, 2010

Implemented on August 01, 2011

**Issued by General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China**

**Standardization Administration of the People's Republic of
China**

Contents

Foreword.....	1
1 Scope	4
2 Normative references	4
3 Terms and definitions	8
4 Constructional requirements for all electrical apparatus	13
5 Supplementary requirements for specific electrical apparatus	30
6 Type verifications and type tests	60
7 Routine verifications and routine tests	76
8 Ex component certificates	76
9 Marking and instructions	77
Annex A (Normative) Cage motors - Methods of test and of calculation	82
Annex B (Normative) Type tests for specific forms of resistance heating devices or resistance heating units (other than trace heater)	85
Annex C (Informative) Cage motors - Thermal protection in service	88
Annex D (Informative) Resistance heating devices and units - Additional electrical protection	89
Annex E (Informative) Combinations of terminals and conductors for general purpose connection and junction boxes	90
Annex F (Informative) Dimensions of copper conductors	93
Annex G (Informative) Potential stator winding discharge risk assessment - Ignition risk factors	94
Annex H (Normative) Test procedure for T8, T10 and T12 lamps	95
Annex I (Informative) Introduction of an alternative risk assessment method encompassing 'Equipment Protection Levels' for Ex Equipment	100

Foreword

All technical contents of this part are compulsory.

GB 3836 “Explosive Atmospheres” is divided into a number of parts:

- Part 1: Equipment—General Requirements;
- Part 2: Equipment Protection by Flameproof Enclosures “d”;
- Part 3: Equipment Protection by Increased Safety “e”;
- Part 4: Equipment protection by intrinsic safety “i”;
- Part 5: Pressurized Enclosures “p”;
- Part 6: Oil—Immersion “o”;
- Part 7: Power Filling “q”;
- Part 8: Type of Protection “n”;
- Part 9: Encapsulation “m”;
- Part 11: Method of Test for Ascertainment of Maximum Experimental Safe Gap;
- Part 12: Classification of Gases or Vapours with Air according to Their Maximum Experimental Safe Gaps and Minimum Igniting Current;
- Part 13: Repair and Overhaul for Apparatus Used in Explosive Gas Atmospheres
- Part 14: Classification of Hazardous Areas;
- Part 15: Electrical Installations in Hazardous Areas (Other than Mines);
- Part 16: Inspection and Maintenance of Electrical Installation (Other than Mines);
- Part 17: Construction and Use of Rooms or Buildings Protected by Pressurization;
- Part 18: Intrinsically Safe System;
- Part 19: Fieldbus intrinsically safe concept (FISCO);

Explosive atmospheres—

Part 3: Equipment protection by increased safety “e”

1 Scope

This part of GB 3836 specifies the requirements for the design, construction, testing and marking of electrical apparatus with type of protection increased safety "e" intended for use in explosive gas atmospheres. This standard applies to electrical apparatus where the rated voltage does not exceed 11 kV r.m.s. a.c. or d.c. Additional measures are applied to ensure that the apparatus does not produce arcs, sparks, or excessive temperatures in normal operation or under specified abnormal conditions.

This standard supplements and modifies the general requirements of GB 3836.1-2010. Where a requirement of this standard conflicts with a requirement of GB 3836.1-2010, the requirement of this standard takes precedence.

NOTE Increased safety "e" can provide Equipment Protection Levels (EPL) Mb or Gb. For further information, see Annex I.

2 Normative references

The articles contained in the following documents have become this part of GB 3836 when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this part.

GB 755-2008 “Rotating Electrical Machines—Rating and Performance (IEC 60034-1:2004, IDT)”

GB 1312-2007 Lampholders for tubular fluorescent lamps and starter holders (IEC 60400:2004 IDT)

- GB/T 1406.1-2008 Types and dimensions of lamp caps - Part 1: Screw caps (MOD IEC 60061-1:2005)
- GB/T 2423.5-1995 Environmental testing for electric and electronic products Part 2: Test methods Test Ea and guidance: Shock (idt IEC 68-2-27:1987)
- GB/T 2423.10-2008 Environmental testing for electric and electronic products - Part 2: Tests methods - Test Fc: Vibration (sinusoidal) (IDT IEC 60068-2-6:1995)
- GB/T 2828.1-2003 Sampling procedures for inspection by attributea-Part1: Sampling schemes indexed by acceptance quality limit(AQL) for lot-by-lot inspection (IDT ISO 2859-1:1999)
- GB/T 2900.35-2008 “Electrotechnical Terminology—Equipment for Explosive Atmospheres (IEC 60050 (426): 2008, IDT)”
- GB 3836.1-2000 Electrical apparatus for explosive gas atmospheres--Part 1: General requirements (eqv GB 3836.1-2010: 1998)
- GB 3836.2-2010 “Explosive Atmospheres—Part 2: Equipment protection by flameproof Enclosures “d” (IEC 60079-1:2007, MOD)”
- GB 3836.4-2010 “Explosive Atmospheres—Part 4: Equipment Protection by Intrinsic Safety “i” (IEC 60079-11:2006, MOD)”
- GB 3836.9-2006 “Electrical Apparatus for Explosive Gas Atmospheres—Part 9: Encapsulation “m” (IEC 60079-18:2004, IDT)”
- GB 3836.15-2000 “Electrical Apparatus for Explosive Gas Atmospheres—Part 15: Electrical Installations in Hazardous Areas (Other than Mines) (eqv IEC 60079-14:1996)”
- GB 3836.16-2006 Electrical apparatus for explosive gas atmospheres-Part 16: Inspection and maintenance of electrical installation (other than mines) (IEC 60079-17:2002, IDT)
- GB/T 3956-2008 Conductors of insulated cables (IDT IEC 60228:2004)
- GB/T 4207-2003 Method for determining the comparative and the proof trackin indices of solid insulating materials under moist conditions (IEC 60112:1979, IDT)

GB 4208-2008 “Degrees of Protection Provided by Enclosure (IP Code) (IEC 60529:2001, IDT)”

GB/T 4942.1-2006 “Degrees of Protection Provided by the Integral Design of Rotating Electrical Machines (IP Code)—Classification (IEC 60034-5:2000, IDT)”

GB/T 5332-2007 “Method of Test for Ignition Temperature of Flammable Liquids and Gases (IEC 60079-4:1975, IDT)”

GB/T 6109.2-2008 Enamelled round winding wire—Part 2: Polyester enamelled round copper wire class 155 (IDT IEC 60317-3:2004)

GB/T 6109.5-2008 Enamelled round winding wire—Part 5: Polyesterimide enamelled round copper wire class 180 (IEC 60317-8:1997 IDT)

GB/T 6109.6-2008 Enamelled round winding wire—Part 6: Polyimide enamelled round copper wire class 220 (IDT IEC 60317-7:1997)

GB/T 6109.20-2008 Enamelled round winding wire—Part 20: Polyester on polyesterimide overcoated with polyamide-imide enamelled round copper wire class 200 (idt IEC 60317-12:1990)

GB 7251(All parts) Low-voltage switchgear and controlgear assemblies (neq IEC 60439-3:2001)

GB 7957-2003 “General Requirements for Safety of Cap Lamp (IEC 62013-1:1999, NEQ)”

GB/T 10681-2009 Tungsten filament lamps for domestic and similar general lighting purposes—Performance requirements (NEQ IEC 60064:2005 A4:2007)

GB/T 11021-2007 Electrical insulation - Thermal classification (IEC 60085:2004 IDT)

GB 14048.1-2006 “Low-voltage Switchgear and Controlgear—Part 1: General Rules (IEC 60947-1:2001, MOD)”

GB 14048.7-2006 Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors (IEC 60947-7-1:2002, IDT)



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