



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

**GB/T 3836.8-2021**

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**Explosive atmospheres - Part 8: Equipment protection by type  
of protection 'n'**

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### Foreword

This document is drafted in accordance with GB/T 1.1-2020 "Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents".

This document is Part 8 of GB/T 3836 "Explosive atmospheres". GB/T 3836 has issued the following 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.Equipment protection by pressurized enclosure "p";
- Part 6.Equipment protection by liquid immersion "o";
- Part 7.Equipment protection by powder filling "q";
- Part 8.Equipment protection by type of protection "n";
- Part 9.Equipment protection by encapsulation "m";
- Part 11.Material characteristics for gas and vapour classification - Test methods and data;
- Part 12.Material characteristics for combustible dusts - Test methods;
- Part 13.Equipment repair, overhaul, reclamation and modification;
- Part 14.Classification of areas - Explosive gas atmosphere;
- Part 15.Electrical installations design, selection and erection;
- Part 16.Electrical installations inspection and maintenance;
- Part 17.Equipment protection by pressurized room "p" and artificially ventilated room "v";
- Part 18.Intrinsically safe electrical systems;
- Part 20.Equipment with equipment protection level (EPL) Ga;
- Part 21.Application of quality systems for equipment manufacture;
- Part 22.Protection of equipment and transmission system using optical radiation;
- Part 23.Group I, category EPL equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust;
- Part 24.Equipment protection by special protection "s";
- Part 25.Requirements for process sealing between flammable process fluids and electrical systems;
- Part 26.Electrostatic hazards - Guidance;
- Part 27.Electrostatic hazards - Test;
- Part 28.Non-electrical equipment for explosive atmospheres - Basic method and requirements;
- Part 29.Non-electrical equipment for explosive atmospheres - Constructional

safety "c", control of ignition source "b", liquid immersion "k";

- Part 30. Equipment and components in explosive atmospheres in underground mines;
- Part 31. Equipment dust ignition protection by enclosure "t";
- Part 32. Intrinsically safe systems with electronically controlled spark duration limitation;
- Part 33. Equipment in adverse service conditions;
- Part 34. Equipment assemblies;
- Part 35. Classification of areas for explosive dust atmospheres.

This document replaces GB 3836.8-2014 "Electrical apparatus for explosive gas atmospheres - Part 8. Type of protection 'n'". Compared with GB 3836.8-2014, the main technical changes are as follows.

- Change the range of internal working voltage (see Clause 1; Clause 1 of the 2014 edition);
- Delete non-sparking device "nA", which has been included in GB/T 3836.3 "ec" (see Clause 3 of the 2014 edition);
- Delete enclosed break device "nC", which has been included in GB/T 3836.2 "dc" (see Clause 3 of the 2014 edition);
- Modify the definition of hermetically-sealed device "nC" (see Clause 3; Clause 3 of the 2014 edition);
- Add the definition of normally sparking device (see Clause 3);
- Delete the content of small components (see 5.2 of the 2014 edition);
- Delete the requirements for connectors and wiring cavities (see Clause 7 of the

### **2014 edition);**

- Delete the supplementary requirements for non-sparking rotating electric machines (see Clause 8 of the 2014 edition);
- Delete the supplementary requirements for non-sparking fuses and fuse assembly (see Clause 9 of the 2014 edition);

- Delete the supplementary requirements for non-sparking plugs and sockets (see Clause 10 of the 2014 edition);
- Delete the supplementary requirements for non-sparking luminaires (see Clause 11 of the 2014 edition);
- Delete the supplementary requirements for equipment with non-sparking cells (see Clause 12 of the 2014 edition);
- Delete the supplementary requirements for non-sparking low-power equipment (see Clause 13 of the 2014 edition);
- Delete the supplementary requirements for non-sparking current transformers (see Clause 14 of the 2014 edition);
- Delete the requirements for other non-sparking electrical equipment (see Clause

**15 of the 2014 edition);**

- Delete the general supplementary requirements for equipment generating arcs, sparks or hot surfaces (see Clause 16 of the 2014 edition);
- Delete the requirements for enclosed circuit breakers (see Clause 17 of the 2014 edition);
- Add voltage and current limiting of non-incendive components (see 7.2);
- Change the requirements for sealed devices (see Clause 9; Clause 19 of the 2014 edition);
- Delete the requirement that the COT of the lighting material is higher than 20 K (see 19.5 of the 2014 edition);
- Add requirements for compliance with industrial standards (see 10.2.1);
- Add requirements for cells (see 10.2.2);
- Change the requirements for cable glands and conduit entries (see 10.2.3; 20.2.2 of the 2014 edition);
- Change the requirements for gasketed windows (see 10.2.5.2; 20.2.4.2 of the 2014 edition);
- Add documentation requirements for gaskets and seals (see 10.2.6);