NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 3836.3-2021

Explosive atmospheres - Part 3: Equipment protection by increased safety 'e'

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Foreword

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

This document is Part 3 of GB/T 3836 "Explosive atmospheres". The following parts of GB/T 3836 have been issued.

- Part 1.Equipment - General Requirements;
- Part 2.Equipment Protection by Flameproof Enclosure "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";
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- 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 Level of Protection (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 Ma 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 3836.3-2010 Explosive atmospheres - Part 3.Equipment protection by increased safety "e". Compared with GB 3836.3-2010, in addition to the structural and editorial changes, the main technical changes in this document are as follows.

- Added the requirements for the classification of increased safety "e" electrical equipment and Ex components according to Level of Protection "eb" and Level of Protection "ec" (from "nA" in GB 3836.8-2014) (see Chapter 1 of this Edition);

- Added the requirements for different Level of Protections of "eb" and "ec" for electrical connections (see 4.2 of this Edition);

- Added the requirements for Level of Protection "ec" printed circuit boards (see 4.5 of this Edition);

- Changed the requirements for solid electrical insulating materials (see 4.6 of this Edition, 4.5 of Edition 2010);

- Changed the general content of limit temperature and added the determination condition for maximum surface temperature (see 4.8.1 of this Edition. 4.7.1 of Edition 2010);

- Changed the requirements for enclosure Level of Protection (see 4.10 of this Edition, 4.9 of Edition 2010);

- Added different requirements for motors according to Level of Protection "eb" and