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

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Fire emergency lighting and evacuate indicating system

消防应急照明和疏散指示系统

(English Translation)

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1 Scope

This Standard specifies terms and definitions, classification, protection degree, general requirements, test, inspection rules, marking and operation instruction of fire emergency lighting and evacuate indicating system.

This Standard is applicable to fire emergency lighting and evacuate indicating system (hereinafter referred to as "system") installed and used in general industrial and civil buildings and to the system installed in other environment and with specific requirements (except unless otherwise specified by relevant standard).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. For dated reference, subsequent amendments to (excluding correction to), or revisions of, any of these publications do not apply. However, all parties coming to an agreement according to this standard are encouraged to study whether the latest edition of these documents is applicable. For undated references, the latest edition of the normative document is applicable to this standard.

GB 4208-2008 Degrees of protection provided by enclosure (IP code) (IEC 60529:2001, IDT)

GB 7000.1-2007 Luminaires - Part 1: General requirements and tests (IEC 60598-1:2003, IDT)

GB/T 9969 General principles for preparation of instructions for use of industrial products"

GB 12978 Rules for test of fire electronic products

GB 13495 Fire safety signs (GB 13495-1992, neq ISO 6309:1987)

GB 16838 Environmental test methods and severities for fire electronic products

3.3 fire emergency lighting & indicating luminaire

Fire emergency luminaire which has the function of fire emergency lighting luminaire and fire emergency indicating luminaire simultaneously.

3.4 fire emergency luminaire powered by self-contained battery

Fire emergency luminaire of which the battery, light source and associated circuits are assembled in the luminaire.

3.5 emergency power supply cell for fire emergency luminaire

Component of battery and associated circuits which are not in the same luminaire as light source in fire emergency luminaire powered by self-contained battery.

3.6 son & mother type fire emergency luminaire(s)

A group of fire emergency luminaires that the son fire emergency luminaire has no independent battery and is powered by the associated mother fire emergency luminaire, and its working state is controlled by the mother luminaire.

3.7 fire emergency luminaire powered by centralized batteries

Fire emergency luminaire that has no independent battery therein and is powered by centralizing power supply for fire emergency luminaires.

3.8 centralizing power supply for fire emergency luminaires

Power supply which powers for fire emergency luminaire powered by centralized batteries if fire occurs and takes battery as the energy source.

3.9 fire emergency luminaire controlled by central control panel

Fire emergency luminaire of which the working state is controlled by central luminaires powered by centralized battery

Fire emergency lighting and evacuate indicating system composed of fire emergency

luminaire controlled by central control panel, central control panel for fire emergency luminaire, centralizing power supply for fire emergency luminaries, distribution and switch equipment for fire emergency lighting and associated accessories.

3.16 non-central controlled fire emergency lighting system for fire emergency luminaires powered by centralized battery

Fire emergency lighting and evacuate indicating system composed of fire emergency luminaire powered by centralized batteries, centralizing power supply for fire emergency luminaries, distribution and switch equipment for fire emergency lighting, associated accessories, etc.

3.17 switch board for fire emergency lighting

The Distribution and switch equipment which is powered by fire emergency luminaire powered by self-contained battery.

3.18 distribution and switch equipment for fire emergency lighting

Distribution and switch equipment which distributes power for emergency output of centralizing power supply for fire emergency luminaries.

3.19 exhausted voltage

Terminal voltage of battery that the fire emergency luminaire does not have emergency action any more when the overdischarge protection part starts.

4.1 System classification

Classified according to system type:

a) Central controlled system for fire emergency luminaires powered by self- contained battery;

specified in GB 4208-2008; that of the luminaires installed outdoors shall not be less than IP67 specified in GB 4208-2008 and shall meet the nominal protection degree.

5.3 The installing surface of the luminaires on floor shall be capable of withstanding exoteric mechanical shock and grinding.

6.1 General provisions

Fire emergency lighting and evacuate indicating system and its all parts shall first meet the requirements of this Clause if it is intended to comply with this standard, and then shall be subjected to tests according to the relevant requirements of Clause 7 and meet the test requirements. The system and its composition may refer to the description of Annex A.

6.2 General requirements

6.2.1

The main power supply shall adopt 220 V (centralizing power supply for fire emergency luminaries may adopt 380 V), 50 Hz AC power supply; the dropping equipment of the main power supply shall not adopt resistance- capacitance voltage-reducing mode; the main power supply of luminaires on floor shall adopt safety voltage.

6.2.2

The system that its enclosure adopts non-insulating material shall be equipped with earthing protection; the earthing terminal shall meet the requirements of GB 7000.1-2007 and shall be provided with definite marking.

6.2.3

The marking of fire emergency indicating luminaires shall meet the relevant requirements of Annex B; the evacuate indicating luminaires shall use

Figure B.1, Figure B.2 or Figure B.3 as the main marking information; the storey indicating luminaires shall use Arabic numerals and letter "F" as the main marking information.

6.2.4 The fire emergency luminaire with inversion output and output voltage

exceeding 36 V shall be capable of stopping battery discharge within 20 s after disconnecting light source for 5 s during the period of emergency working state.

6.2.5 The luminaire using fluorescent lamp as the light source shall not access a starter into emergency circuit and shall not use the light source with built-in starter.

6.2.6 The maximum rated power of single-phase output of centralizing power

supply for fire emergency luminaries shall not be larger than 30 kV·A, and the maximum rated power of three-phase output shall not be larger than 90 kV·A;

6.2.8 The model preparation method of each part of the system shall meet the requirements of Annex C.

6.3.1 General requirements

6.3.1.1

The emergency switching time of the system shall not be larger than 5 s, and that of the system used in high hazardous area shall not be larger than

0.25 s.