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

GB 7957-2023

Replacing GB/T 7957-2017

**Safety technical requirement for cap lamps in coal mine
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document replaces GB/T 7957-2017 "General requirements for structure, performance and explosion-proof testing of miner's lamps for gas environments" and is consistent with GB/T 7957-

Compared with.2017, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added requirements and test methods for thermal ignition compliance (see 5.5 and 6.19);
- b) Changed the requirements and test methods for spark ignition compliance (see 5.6 and 6.20, 5.6 and 6.22 of the.2017 edition);
- c) Delete the flame retardant requirements and test methods for enclosures (see 5.3.1.4 and 6.5 of the.2017 edition);
- d) Delete the requirement for electrical connection voltage after assembly (see 5.3.10 of the.2017 edition);
- e) Delete the thermal drastic change requirements and test methods for light-transmitting covers (see 5.3.14 and 6.16 of the.2017 edition);
- f) The requirements for the general provisions of overcurrent protection devices have been changed (see 5.7, 5.4.1 of the.2017 edition);

- g) The requirements and test methods for thermal circuit breakers are deleted (see 5.4.3.2 and 6.20 of the.2017 edition);
- h) The requirements and test methods for capacitance are deleted (see 5.11 and 6.32 of the.2017 edition);
- i) Delete the ergonomic requirements (see 5.12 of the.2017 edition);
- j) The current limiting resistor test method is deleted (see 6.21.3 of the.2017 edition).

This document refers to IEC 60079-35-1.2011 "Explosive Environments Part 35-1.General Requirements Structure of Mining Lamps for Gas Environments"

and explosion-proof test" and IEC 60079-35-2.2011 "Explosive environments Part 35-2.Performance of miner's lamps for gas environments and other related

Safety Test" was drafted, and the degree of consistency is non-equivalent.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document stipulates the performance and safety requirements, marking, packaging, transportation and storage of miner's lamps for coal mines (hereinafter referred to as "miner's lamps").

In order to facilitate the classification of products in technical regulations, the corresponding test methods are described.

This document applies to miner's lamps, including miner's lamps used in coal mines and miner's lamps that power other equipment.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

GB/T 191 Packaging, storage and transportation pictorial mark

GB/T 2423.4 Environmental testing of electrical and electronic products Part 2.Test method Test Db. Alternating damp heat (12h 12h cycle)

GB/T 3836.1-2021 Explosive atmosphere Part 1.General requirements for equipment

GB/T 3836.3-2021 Explosive atmospheres Part 3.Equipment protected by increased safety type "e"

GB/T 3836.4-2021 Explosive atmospheres Part 4.Equipment protected by intrinsically safe "i"

GB/T 4208 Shell protection level (IP code)

GB/T 16935.3-2016 Insulation coordination of equipment in low-voltage systems Part 3.Antifouling by coating, potting and molding

Protect

MT/T 395-2007 Mining lamp protector

MT/T 818.10-2009 Coal mine cables Part 10.Miner's cap lamp cord for coal mines

MT/T 1051-2007 Lithium-ion battery for miner's lamp

3 Terms and definitions

The following terms and definitions as defined in GB/T 3836.1-2021 and GB/T 3836.4-2021 apply to this document.

3.1

battery containerbatterycontainer

The casing that holds the battery.

Note: The tank cover is part of the battery tank.

3.2

effectiveworkingperiod

The time that the miner's lamp continues to operate with the minimum luminous intensity specified in this document under the operating current specified by the manufacturer.

4.1 By product structure

The product is portable and can be fixed on a mining helmet. According to the different connection methods of the lamp head part and the battery part, it can be divided into the following

END: Draft Version (GB 7957-2023)