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

GB/T 7958-1987

Replacing GB 7958-2000

**Capacitor discharge type exploders for coal mines
(English Translation)**

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Foreword

All the technical contents of this standard is mandatory.

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB 7958-2000 "coal mine capacitive Exploder." this standard compared with GB 7958-2000, the main technical content differences are as follows.

--- Detonated action "such as the use of electronic switches should be connected to the output instruction detonation impulse reliably detonate energy output, non-occurrence Unexpected power phenomenon. "To" such as the use of electronic switches shall ensure continuous and reliable charging process, unexpected power failure now prohibited Like; it should be connected to the output instruction detonation impulse reliably detonate energy output, power accident occurred phenomenon is strictly prohibited. "(See 5.5, 2000 edition 5.5);

Number of trials --- life test made changes and increases in Table 3 (see 516, 2000 edition 6.12.);

--- Increasing the minimum ignition impulse and specifies the maximum ignition impulse test methods (see 65, 2000 version 6.5.);

--- Ignited impulse, the minimum allowed resistance by GB 8031-2005 have been revised, and synchronizes revised Table 1 (see 5.9 and Table 1, 2000 in version 5.10 and Table 1);

--- Remove the "FCC-3" Exploder parameter tester model (see Table 3 of the 2000 edition);

--- Load resistance "rated load" to "maximum permissible load" (see 58, 59, 2000 edition of

5.9,5.10.);

--- To increase and refine the proof requirements (see 5.7).

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

This standard is proposed and managed by the China Coal Industry Association.

This standard by the Institute of Shenyang Coal Group Co., Ltd., Heilongjiang coal Vocational and Technical College, Beijing Science and Technology Development Co., Lung Tak Division Dashiqiao explosion Factory, Shandong Longtai Mining Equipment Co., Shuangyashan Kinder Industry Co., Ltd., Weinan coal mine equipment Plant responsible for drafting.

Introduction

Mine capacitive Exploder is one of the mining, tunneling and other engineering electric detonators detonated work necessary tools. Since 2000 Revised Order GB 7958 coal mine capacitive Exploder standard has been implemented ten years, to ensure the quality and safety of the product blasting it played an important role. GB main technical requirements in 7958-2000 and about the explosion safety requirements are fully justified and necessary of this revision work in 7958-2000 on the basis of GB , increase the safety provisions of the content explosion, and explosion-proof security provisions were revised Order, classification and refinement.

High-voltage terminals capacitive Exploder exposed, clearances and creepage distances are impossible to comply with GB 3836.1-2010 and GB 3836.3-2010, and it should belong to the "special type", taking into account the many years followed the habit of this amendment remains in GB 7958-2000 About capacitive Exploder made of flameproof requirements formulation.

Mine capacitive Exploder

1 Scope

This standard specifies the terms and definitions for use in mines capacitive Exploder, model name and preparation methods, technical requirements, test methods, inspection Rules, marking, packaging, transportation, storage and so on.

Mine capacitive Exploder applicable to the coal mine methane and coal dust explosive gas mixtures.

This standard applies to coal with capacitive Exploder (hereinafter referred to as the detonator).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191 Packaging - Pictorial signs GB/T 2423.1-2008 Environmental testing for electric and electronic products Part 2. Test methods Test A. Cold GB/T 2423.2-2008 Environmental testing for electric and electronic products Part 2. Test methods Test B. Dry heat GB/T 2423.4-2008 Environmental testing for electric and electronic products Part 2. Test methods - Test Db alternating hot and humid (12h 12h cycle) GB/T 2423.8-1995 Environmental testing for electric and electronic products Part 2. Test methods Test Ed. Free fall GB/T 2423.10-2008 Environmental testing for electric and electronic products Part 2. Test methods Test Fc. Vibration (sinusoidal) GB 3836.1-2010 explosive atmospheres - Part 1. General requirements for equipment GB 3836.2-2010 explosive atmospheres - Part 2. the flameproof enclosure "d" protection equipment GB 3836.4-2010 Explosive atmospheres - Part 4. the intrinsically safe "i" protection equipment GB 4208 housing protection (IP Code) GB/T 6388 standard transport package shipping GB/T 10111 random number generation and its application in product quality sampling in AQ1043 mining product safety signs logo

3 Terms and Definitions

The following terms and definitions apply to this document.

Safe power supply time safelysupplyelectricitytime to prevent the electric detonators, electric blasting network pulled off or re-lap spark caused the explosion of methane and air mixture allowed Exploder maximum operating time and minimum power supply time.

Ignition impulse expenditureenergyofelectricdetonatorignite when energized electric detonators detonated, nickel-chromium wire bridge resistance unit of energy obtained. Multiply its value is equal to the square and passing a current through the power-on time Product, units of $A^2 \cdot ms$.

4 Type designation and preparation method

4.1

Type designation and preparation method as follows.

Product Type. detonator First feature. Capacitive Main parameters. Rated detonated retransmission number Supplementary features code. indicates additional functions Design Number. A, B, C Rated 4.2 retransmission number parameter to detonate the main nickel-chromium wire bridge industrial electric detonator, is preferably 10,25,50,100,150 and 200 series.

4.3

Supplementary features of the code used to indicate additional features.

5 Technical requirements

5.1

detonator shall comply with the provisions of this standard, in accordance with prescribed procedures approved manufacturing drawings and technical documents.

Normal working conditions 5.2 detonator is.

- a) Temperature. 0 °C ~ 40 °C;
- b) the ambient air relative humidity less than 95% (at 25 °C);
- c) Atmospheric pressure. 80kPa ~ 106kPa.

5.3

Storage ambient temperature. -40 °C ~ 60 °C.

Load resistor and the charge time to comply with Table 1 rated 5.4 detonator detonated when the number of hair.

Table 1 Typical retransmission number detonator allows the load resistance and charging time

Performance

model

FD10 FD25 FD50 FD100 FD150 FD200 Rated detonated retransmission number
102,550,100,150,200 Allowable load resistance $13 \leq R \leq 70$ $70 \leq R \leq 160$
 $160 \leq R \leq 320$ $320 \leq R \leq 620$ $620 \leq R \leq 920$ $920 \leq R \leq 1220$ Charging
time ≤ 10 ≤ 20 Note. When the number of hair is not rated preferred series, decided to
calculate the maximum allowable load resistance should be inserted into the law.

5.5

When should detonator to detonate electrical explosion network output impulse operated by dedicated tools. Such as the use of mechanical switches shall be constructed to protect Card switch handle can not be removed in the "charge" position, and should be flexible rotation; reliable contact on and off, non-accidental power phenomenon occurs; the operation shall be available for hand jack dust cap. Such as the use of electronic switches shall ensure continuous and reliable charging process is prohibited unexpected power phenomenon;

Should be connected to the output instruction detonation impulse reliably detonate energy output, power accident occurred phenomenon is strictly prohibited.