

ICS 13.100
CCS D09



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

GB 24502-2023

Replacing GB 24502-2009

Self-rescuer for coal mine

煤矿用自救器

Issued on: September 8, 2023

Implemented on: October 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

1 Scope	1
2 Normative reference documents	1
3 Terms and Definitions	1
4 Categories and models	3
5 Requirements	3
6 Test methods	8
7 Inspection Rules	14
20 Appendix B (normative) Schematic diagram of test device	23

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 24502-2009 "Chemical Oxygen Self-Rescuer for Coal Mines". Compared with GB 24502-2009, except for structural adjustment and editing In addition to sexual changes, the main technical changes are as follows:

- a) Added the terms "high pressure system", "rationed oxygen supply", "manual supply of oxygen" and "automatic supply of oxygen"; deleted the terms "chemical oxygen automatic supply" "Rescue device", "Exhalation humidity", "Initial oxygen generator", "Rolling impact resistance" and "Drop test" (see Chapter 3, Chapter 3 of the.2009 edition chapter);
- b) Changed the definition of "rated protection time" (see 3.1, 3.2 of the.2009 version);
- c) Added requirements for replacement when the compressed oxygen self-rescuer uses calcium hydroxide as the carbon dioxide absorbent (see 5.4.3.2);
- d) Added ZH45, ZH90, ZY30, ZY45, ZY60, ZY90, ZY120 models (see 5.5.3);
- e) Added provisions for quantitative oxygen supply when the respiratory volume is 35L/min and 10L/min (see 5.7.1);
- f) Added provisions for automatic oxygen supply (see 5.7.2);
- g) Added provisions for manual oxygen supply (see 5.7.3);
- h) Added ventilation resistance requirements and test methods for exhalation valves and

inhalation valves (see

5.14.1.1 and 6.14);

i) The requirements and test methods for reverse air leakage of exhalation valves and inhalation valves have been changed (see

5.14.1.2 and 6.15,

1 Scope

GB 24502-2023 is the Chinese national standard on self-rescuer for coal mine, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 8 September 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 October 2024. Classification: ICS 13.100, CCS D09. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document stipulates the classification and model, requirements, inspection rules, marking, packaging, transportation, storage and validity period of self-rescuers for coal mines, and Corresponding test methods. This document applies to the design, production, inspection and use of self-rescuers used in coal mines (hereinafter referred to as "self-rescuers").

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 1226 General pressure gauge

GB/T 2423.17 Environmental testing of electrical and electronic products Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Rated protection time ratedworkingduration The operating time of the self-rescuer

measured under specified test conditions.

3.2 The self-rescuer ensures the normal breathing performance of the human body during the protection period.

4 Stainless steel seamless gas cylinders

GB/T 8982 Medical and aviation respiratory oxygen

GB/T 10111 Generation of random numbers and their application in product quality sampling inspection

GB/T 28053 Aluminum alloy liner carbon fiber fully wrapped gas cylinder

GB/T 31838.2 Dielectric and resistive properties of solid insulating materials Part

2.Resistive properties (DC method) Volume resistance and Volume resistivity AQ/T 1057-2008 Chemical oxygen self-rescuer initial oxygen generator MT/T 113-1995 General test methods and judgment rules for flame retardant and antistatic properties of polymer products used in underground coal mines MT/T 427-1995 Technical specifications for potassium superoxide flake oxygen generating agent MT/T 454-2008 Technical specifications for calcium hydroxide for isolation oxygen breathing apparatus and self-rescuers