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

GB/T 46338-2025

**General requirements for data and transmission of emergency
rescue in underground space**

地下空间应急救援数据与传输通用要求

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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. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Public Security Infrastructure (SAC/TC351). This document was drafted by: Beijing University of Posts and Telecommunications, China National Institute of Standardization, Big Data Center of the Ministry of Emergency Management, Anhui University of Science and Technology, and Beijing University of Posts and Telecommunications. Shenzhen Gas Group Co., Ltd., Nanjing University, Fujian (Quanzhou) Advanced Manufacturing Technology Research Institute, Shenzhen Technology University, Shenzhen Municipal Public Works Bureau Safety Technology Research Institute Co., Ltd., Beijing Information Science and Technology University, Beijing Technology and Business University, Changda Municipal Engineering (Guangdong) Co., Ltd., China Water Resources Hydropower Seventh Engineering Bureau Co., Ltd., Chongqing Surveying and Mapping Science and Technology Research Institute, Shaanxi Zhengtong Coal Industry Co., Ltd., Jiangsu Nanjing Geological Engineering Co., Ltd. Cheng Surveying and Mapping Institute, Anhui Digital Construction Research Institute Co., Ltd., China Power Construction Road & Bridge Group Co., Ltd., Northwest Surveying and Design Institute of China Power Construction Group China Railway Seventh Group Co., Ltd., Beijing Guangjiaanyun Technology Co., Ltd., China Railway Twentieth Bureau Group Fourth Engineering Co., Ltd. China Railway Seventh Bureau Group Wuhan Engineering Co., Ltd., China Railway Seventeenth Bureau Group Co., Ltd., and China Railway Twenty-first Bureau Group Rail Transit Engineering Co., Ltd.

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With the deepening of urbanization, the area of urban underground space used and the functions it undertakes are increasing day by day, leading to geological disasters, floods, and fires. As disasters, earthquakes, and other accidents and risks increase, it is necessary to comprehensively improve emergency rescue capabilities in underground spaces in order to protect people's lives and property. level. Compared to surface emergency rescue, underground emergency rescue environments are more complex and harsher, making rescue efforts more difficult and demanding on data sensing and transmission technologies. The equipment varies considerably. Therefore, although my country's standards for terrestrial data and transmission are relatively complete, they are not applicable to underground spaces. Urgent data transmission is crucial. In emergency rescue operations in underground spaces, the required sensing data and its transmission methods still lack systematic and standardized frameworks, necessitating the provision of standards. Technical support. This document addresses the challenges of data sensing and transmission in emergency rescue operations in underground spaces, providing a framework for data sensing and transmission during emergency situations in underground spaces. The system's construction provides guidance, offering accurate, effective, and secure data support for rescue decisions and operations. General Requirements for Emergency Rescue Data and Transmission in Underground Space

1 Scope

GB/T 46338-2025 is the Chinese national standard covering getting data out of an

underground rescue - the position, environment and casualty information collected, the format it is carried in, and the transmission through a place where ordinary radio does not reach and the fixed network may have failed. First edition, in force from 1 February 2026. Issued on 5 October 2025, it has been in force since 1 February 2026.

This document specifies the basic requirements, data requirements, data transmission requirements, and transmission system requirements for emergency rescue data and transmission in underground spaces. This document applies to the perception and transmission of emergency rescue data in urban underground spaces. This document does not apply to underground spaces in coal mines or non-coal mines.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3836.1 Explosive Atmospheres - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 underground space Below the earth's surface, in places where human activity takes place, whether through artificial development or naturally formed. Note

1.Includes underground transportation, underground municipal facilities, underground public services, underground disaster prevention and mitigation, etc., but excludes mines. Note

2.Data transmission in underground spaces is affected by the transmission medium, obstructions, and point-to-point line of sight. Note

3.Underground space is different from confined space, limited space, and open space.

3.2 Emergency rescue Emergency actions taken in underground spaces after a disaster.

4.Abbreviations The following abbreviations apply to this document.

4 Equipment protected by intrinsic safety type "i"

GB/T 4208 Degrees of protection provided by enclosures (IP code)

GB 12358 General Technical Requirements for Gas Detection and Alarm Instruments in the Workplace

GB/T 29428.1 Earthquake Disaster Emergency Rescue Teams' Rescue Operations - Part