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CCS D09



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

GB/T 42638-2023

**The direct measuring method of the coal seam gas drainage
radius in coal mine - Method of drainage volume**

煤矿井下煤层瓦斯抽采半径直接测定方法 抽采量法

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed and managed by China Coal Industry Association: This document was drafted by: Coal Science and Technology Research Institute Co., Ltd., Jinneng Holdings Shanxi Science and Technology Research Institute Co., Ltd., China Coal Science and Technology Research Institute Co., Ltd: Industrial Group Chongqing Research Institute Co., Ltd., China University of Mining and Technology, China Coal Science and Industry Group Shenyang Research Institute Co., Ltd: The main drafters of this document: Huo Zhonggang, Shu Longyong, Wang Dezhang, Cheng Yuanping, He Guanghui, Zhao Xusheng, Li Yang, Du Hailong, Zhang Lang, Wang Weihua, Wang Liang, Cao Yaolin, Chang Weibin, Lu Guichun, Zhang Huijie, Hao Jinwei, Fan Yongpeng, Fan Xisheng, Zhu Nannan, Zhao Xueliang, Cui Cong, Song Xin, Zhao Can, Wang Gongda, Liu Yongqian, Sun Xiaojun: Method for direct measurement of coal seam gas drainage radius in coal mine extraction volume method

1 Scope

GB/T 42638-2023 measures how far a gas drainage borehole actually works. Underground coal mining in gassy seams depends on draining methane ahead of the face, and the spacing of the drainage boreholes is set by an assumed effective radius. Assume too large a radius and gas is left in the seam between the holes, which is how outbursts and explosions happen; assume too small a radius and a great deal of money is spent drilling holes that overlap. The radius depends on the seam, so it has to be measured rather than taken from a handbook. This document describes the direct measurement of the drainage radius by the drainage volume method: the equipment required, the measurement process,

and the confirmation of the measurement results. It applies to determining the drainage radius of bedding boreholes, cross-measure boreholes and directional long boreholes drilled along the seam in underground coal mines. Under ICS 13.100 and CCS D09, it is a safety document as much as a technical one, written for mine ventilation and gas control engineers, mine designers setting borehole patterns, and the inspectorates that examine whether a drainage plan rests on measured evidence.

This document describes the equipment, measurement process and confirmation of measurement results of the direct measurement method of coal seam gas drainage radius in coal mines: This document is applicable to the determination of the drainage radius of bedding boreholes, bedding boreholes and bedding directional long boreholes in underground coal mines:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 1227 precision pressure gauge GB/T 15663:

3 Terms and Definitions

The following terms and definitions defined in GB/T 15663:8 apply to this document: 3:

1 Under certain extraction conditions (drainage hole diameter, extraction negative pressure, hole sealing process, etc.) and extraction time, with the extraction drilling as the center, the The radius of the circular area where the coal seam gas drainage effect reaches the standard: 3:

2 Determination of borehole measurementdrilling Drainage boreholes constructed in accordance with the design parameters in the investigation section and used to monitor the drainage effect (flow rate, concentration, negative pressure and other parameters): 3:

3 In order to make the measured boreholes in the investigation section be in a limited flow field environment, the parameters of the construction around the measured boreholes are the same as those of the measured boreholes: extraction boreholes: 3:

4 The amount of gas contained in a unit mass or unit volume of coal body when the coal seam gas drainage effect reaches the standard: 3:

5 When the coal seam gas drainage effect reaches the standard, the amount of gas contained in the coal seam except the non-desorbable gas under normal pressure:

8 Coal Mine Technical Terminology Part 8: Coal Mine Safety

GB/T 23250 Coal seam gas content underground direct measurement method MT/T

28 Optical interferometric methane detector

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