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Underground rubber-tyred mining machines - Performance requirements and test procedures for brake systems

地下轮胎式采矿车辆 制动系统的性能要求和试验方法

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Table of Contents

Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by the China Machinery Industry Federation. This standard by the National Mining Machinery Standardization Technical Committee (SAC/TC88) centralized. This standard is responsible for drafting units. Sinosteel Hengyang Heavy Machinery Co., Ltd. This standard participates in the drafting unit. Luoyang Mining Machinery Engineering Design & Research Institute Co., Ltd., Changzhou Scientific Research Trial Center Co., Ltd., Yantai Xingye Machinery Co., Ltd. The main drafters of this standard. Cui Changqun, Liu Huilong, Wang Yadong, Zhao Yiqiao, Sui Ziqing, Zhao Jinyuan, Yang Xianli, Zhong Xun, Qu Jun. Underground tire mining vehicles Performance requirements and test methods for braking systems

1 Scope

China's national standard for the brakes on rubber-tyred underground mining vehicles. It specifies the performance requirements and the test methods for the braking systems of underground load-haul-dump machines, underground dump trucks and underground auxiliary vehicles, and it applies to those vehicles in underground metal mines, other non-coal underground mines and tunnelling works. Braking underground is a harder problem than braking on a road, and for reasons that compound one another. The vehicles are heavy and short, so a loaded machine carries most of its weight over one axle. The ramps are steep and continuous, which means a long descent is a long application rather than a stop. The floor is wet, uneven and often covered in fine muck, so the available friction is low and unpredictable. And there is nowhere to go: a runaway in a decline meets a wall or another vehicle. The standard therefore specifies the service brake, the secondary brake and the parking brake separately, each with its own performance requirement and its own test.

This standard specifies the performance requirements and test methods for the braking system of underground tire mining vehicles. This standard applies to the following underground metal mines and other non-coal underground mines, tunneling projects used in self-tire vehicles.

--- Underground scraper (LHD);

--- underground dump truck (underground tire transport tanker);

--- Underground auxiliary vehicle.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document. Control device for

GB/T 8595 earthmoving machinery driver

GB/T 10913 Determination of travel speed of earthmoving machinery

GB/T 15706 General principles of mechanical safety design Risk assessment and risk reduction

GB/T 21153-2007 Earthwork machinery - Dimensions, performance and parameters of units and measurement accuracy

ISO 15998 Earthmoving machinery Machine control systems for the use of electronic devices Functional safety performance standards and tests [Earth-movingmachinery-Machine-controlsystems (MCS) usingelectroniccomponents-Performancecri- teriaandtestsforfunctionalsafety]

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Brake system brakesystem Make the vehicle brake and/or stop all combinations of parts. Including brake operating mechanism, brake transmission, brake, such as equipment The speed limiter should also be included.

3.1.1 Traffic brake system A main braking system for braking and stopping the vehicle.

3.1.2 Auxiliary brake system secondarybrakesystem In the event of failure of the vehicle brake system, the vehicle is braking the system.

3.1.3 Parking brake system parkingbrakesystem A system that maintains a parked vehicle in a fixed state may also be part of an auxiliary braking system.