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Full face tunnel boring machines - Single shield hard rock tunnel boring machines

全断面隧道掘进机 单护盾岩石隧道掘进机

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Foreword

This standard was 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 Building Machinery and Equipment Standardization Technical Committee (SAC/TC328) centralized. This standard drafting unit. China Railway Construction Heavy Industry Group Co., Ltd., China Railway

18 Bureau Group Co., Ltd., Yangtze River Survey Planning and Design Co., Ltd., China Railway 11th Bureau Group Co., Ltd. Fifth Engineering, State Key Laboratory of Shielding and Tunneling Technology, China Water Resources and Hydropower Three Engineering Bureau Co., Ltd., the Yellow River Survey Planning and Design Co., Ltd., the National Building Urban Construction Machinery Quality Supervision and Inspection Center, China Railway Engineering Equipment Group Co., Ltd., North Heavy Industries Group Co., Ltd., China Shipbuilding Heavy Industries (Qingdao) Rail Transit Equipment Co., Ltd., Beijing Construction Machinery Research Institute Institute. The drafters of this standard. Cheng Yongliang, Ma Chengbiao, Huang Xin, Wang Bao You, Xiang Feng, Su Lijun, Zhang Kai Shun, Hong Kairong, Huang Jimin, Wang Xueying, Deng Lianghua, Wang Dujuan, Deng Liying, Wang Xiaoqiang, Tang Chongmao, Yang Yanling, Jiang Xianhe, Zhou Jianjun, Zheng Liangui, Dong Jiajia, Di Xiaohong, Zhou Jun, Guo Zhi, Liu Shuang, Han Xiaoliang. Full-face tunnel boring machine Single Shield Rock Tunnel Boring Machine

1 Scope

China's national standard for single shield hard rock tunnel boring machines. It specifies the requirements for this type within the full face tunnel boring machine series. The single shield machine is the answer to what the open machine cannot handle. It bores hard rock with the same disc cutters, but it runs inside a shield and builds a segmental concrete lining immediately behind the head, which means the tunnel is supported the moment it is excavated. That matters where the rock is fractured, faulted or squeezing - conditions in which an open machine's grippers have nothing sound to push against and where the tunnel may close before support can be installed. The trade is thrust: with no grippers, the machine pushes off the lining it has just built, so its advance is limited by what those segments can take, and it must stop to build a ring before it can advance again. Choosing

between open, single shield and double shield is the first decision on any hard rock tunnel, and it is made from the ground investigation.

This standard specifies the single shield rock tunnel boring machine terms and definitions, basic parameters and models, technical requirements, test methods, test rules Then, accompanying documents, logos, packaging and shipping. This standard applies to single-shield rock tunneling machine (hereinafter referred to as roadheader).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 150 (all parts) pressure vessels

GB/T 191 Packaging - Pictorial signs

GB/T 1985-2014 high-voltage AC isolation switch and earthing switch GB 2893 safe color

GB 2894 safety signs and guidelines for their use

GB/T 3766 hydraulic drive systems and components of the general rules and safety requirements

GB/T 3956 cable conductor

GB/T 4208 enclosure protection (IP code)

GB 5226.1 Safety of machinery - Mechanical electrical equipment - Part 1. General specifications

GB 5226.3 Safety of Machinery - Mechanical Electrical Equipment Part 11. Voltage above 1000Va.c or 1500Vd.c but not to exceed 36kV high-voltage equipment technical conditions

GB/T 6388 transport packaging shipping symbols

GB/T 7932 pneumatic system of general technical conditions GB/T 10595 belt conveyor

GB/T 13283 industrial process measurement and control instrumentation and display instrumentation accuracy grade GB/T 13306 signs

GB/T 13384 mechanical and electrical product packaging General technical conditions