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

GB/T 24503-2024

Drive sprocket for chains (round link) for mining

矿用圆环链驱动链轮

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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. This document replaces GB/T 24503-2009 "Roll-ring chain drive sprockets for mining". Compared with GB/T 24503-2009, except for the structural adjustment In addition to editorial changes, the main technical changes are as follows:

- a) Added terms and definitions (see Chapter 3);
- b) Added sprocket type (see 4.1);
- c) Added the types and sizes of compact chain drive sprockets with specifications of 42x146~60x181/197 (see Table 2);
- d) Added the mechanical performance requirements for compact chain drive sprockets with specifications of 42x146~60x181/197 (see Table 4);
- e) Changed the heat treatment requirements for the drive sprocket (see 5.3, 4.3 of the.2009 edition);
- f) The test gauge has been changed (see 6.1, 5.1 of the.2009 edition);
- g) The inspection equipment has been changed (see 6.2, 5.2 of the.2009 edition);
- h) The inspection items have been changed (see 7.2,

6.2 of the.2009 version);

1 Scope

GB/T 24503-2024 is the Chinese standard for the drive sprockets that engage round link chain in mining equipment, the sprockets on armoured face conveyors, stage loaders and shearer haulage. They are among the most heavily loaded and shortest-lived components underground: the chain runs in coal dust and water, the tooth profile wears, and once the chord pitch has grown the chain no longer seats and the load concentrates on one tooth, which is how a chain breaks. The standard sets the types and sizes, the requirements covering the material and heat treatment, the tooth form and pocket geometry, the dimensional and geometric tolerances, the hardness and case depth and the surface condition, then the test methods, the inspection rules and the marking, packaging, transport and storage. A normative annex gives the permissible chord length deviation, which is the parameter that decides when a worn sprocket must be replaced, and an informative annex works through a calculation example. It takes effect on 1 April 2025, and for a manufacturer or a mine buying sprockets in China this is the acceptance text.

This document specifies the types and dimensions, requirements, test methods, inspection rules, standards, and specifications of round link chain drive sprockets (hereinafter referred to as "sprockets") for mining. Labeling, packaging, transportation and storage. This document applies to scraper conveyors, scraper transfer machines, coal planers, tunneling machines, coal mining machines and other equipment that use round link chains or compact chains for traction. The driving sprocket is also suitable for the driving sprocket in other equipment using round link chain as traction chain.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 228.1-2021 Tensile testing of metallic materials Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 An open groove in the sprocket tooth profile that is maintained to accommodate the vertical ring.