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

GB/T 22082-2024

Replacing GB/T 22082-2017

Precast concrete tunnel lining segments

预制混凝土衬砌管片

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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 22082-2017 "Precast concrete lining segments". Compared with GB/T 22082-2017, except for the structural adjustment Besides the editorial changes, the main technical changes are as follows:

- a) Added the classification of cross-sectional shapes of quasi-rectangular segments (see 4.1.3);
- b) The segment specifications have been changed (see Table 1, Table 1 of the.2017 edition);
- c) Added the requirement of using alkali-resistant glass fiber (see 5.7.3);
- d) Added the provisions for the use of basalt fiber (see 5.7.4);
- e) Added general provisions (see Chapter 6);
- f) The provisions on steel bar processing and steel bar skeleton fabrication have been deleted (see 5.6.2 of the.2017 edition);
- g) Deleted the provisions on concrete production and transportation, concrete pouring, and concrete curing (see

5.8.2 of the 2017 edition);

h) Added provisions for process control, production maintenance and safe production of segments (see 6.1);

i) Added provisions for segment durability test verification when the service location is a corrosive environment (see 6.3);

j) Added provisions for handling appearance defects within the allowable repair range of the segments (see 6.6);

1 Scope

GB/T 22082-2024 is the Chinese standard for precast concrete tunnel lining segments: the rings assembled behind a tunnel boring machine that become the permanent lining of a metro, road or utility tunnel. China builds more bored tunnel than the rest of the world combined, and the segment is the one component of it that is mass produced, so a specification is what makes the whole method repeatable. The standard sets the classification and designation, the requirements on the materials, the concrete strength and durability grades and the reinforcement, the dimensional and geometric tolerances, which are extraordinarily tight because the errors accumulate around a ring, the requirements on the appearance and on cracks, the strength and the water tightness of the segment and of the joint, the requirements on the sealing gasket groove and on the bolt pockets and inserts, the load testing and the water tightness testing of assembled rings, the test methods, the inspection rules and the marking, handling, storage and transport. The 2024 edition replaces GB/T 22082-2017.

This document specifies the classification, specifications and marking of precast concrete lining segments, raw materials, general provisions, technical requirements, test methods, inspection rules, marking and factory certificate, storage and transportation. This document is applicable to rail transit, highway, railway, hydraulic, municipal, oil and gas, electric power and other tunnel (tunnel) projects as well as urban underground comprehensive pipeline Design, manufacture and inspection of precast concrete lining segments for corridors.

2 Normative references

The contents of the following documents constitute the 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 175 General purpose Portland cement

GB/T 1499.1 Steel for reinforced concrete - Part

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