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

GB/T 37330-2019

Sleepers for ballasted track - Concrete sleepers

有砟轨道轨枕 混凝土枕

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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 and managed by the State Railway Administration. This standard was drafted. China Railway Research Institute Railway Construction Research Institute, China Railway Engineering Design Consulting Group Co., Ltd. The main drafters of this standard. Fan Jia, Yu Ruilin, Du Xiangang, Zhao Yong, Yan Aihua, Hu Jinpei. track sleeper concrete pillow

1 Scope

China's national standard for prestressed concrete sleepers in ballasted track. It specifies the terms and definitions, the technical requirements, the test methods, the inspection rules and the marking and storage, with a normative annex on testing. The concrete sleeper replaced timber almost everywhere because it lasts several times as long, holds gauge better and is far heavier - and the weight is a feature rather than a cost, since the sleeper's mass is what resists the lateral and longitudinal forces trying to move the track. It is prestressed because concrete in bending would crack under the wheel loads otherwise: the tendons put the whole section into compression so that the tensile stresses from a passing axle never open a crack. That is also why a sleeper cannot simply be cut or drilled on site, and why the fastening system's cast-in components have to be right when it is made. China lays more of these than anywhere else, and the standard governs the article on which the track's geometry depends.

This standard specifies the technical requirements, inspection methods, inspection rules, signs, storage and transportation of prestressed concrete pillows with truss. This standard applies to standard gauge railway railroad track prestressed concrete pillows (excluding sleepers, hereinafter referred to as sleepers).

2 Normative references

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

GB/T 1499.1 Steel for reinforced concrete - Part 1. Hot rolled round bars

GB/T 5223 steel wire for prestressed concrete TB/T 1878 prestressed concrete pillow

fatigue test method TB/T 1879 prestressed concrete pillow static load crack test method

TB/T 3275 railway concrete TB10425 Railway concrete strength inspection and evaluation standard YB/T 5294 general purpose low carbon steel wire

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Oil shoulder shoulderwithoilpenetrating The sleeper shoulder is damaged by the infiltration of grease.

3.2 Powder shoulder pulverulentshoulder Looseness caused by leakage of the shoulder of the sleeper.

3.3 Shoulder bumpedshoulder A defect caused by bumping on the shoulder of the sleeper.

3.4 Exposed reinforcementsteel The steel bars inside the sleeper should be wrapped by concrete without being covered.

3.5 Capacitor pillow sleeperthathavecapacitor'smountinggroove A sleeper having a track circuit capacitor mounting groove.

4.1 Materials

4.1.1 Portland cement or ordinary Portland cement should be used for cement. The strength level of cement should not be lower than 42.5, and should not be used early.