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

GB/T 37439-2019

**Precast post-tensioned prestressed concrete simply supported
beams for high-speed railways**

高速铁路预制后张法预应力混凝土简支梁

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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 Institute, China Railway Engineering Design Consulting Group Co., Ltd., China Railway Road Economic Planning Institute. The main drafters of this standard. Niu Bin, Xu Shengqiao, Hu Zouting, Deng Yunqing, Su Yonghua, Gao Ce, Wang Leran, Wei Feng, Ren Weidong, Ma Lin, Ge Kai, Ban Xinlin. Prefabricated post-tensioning of high-speed railway Concrete simply supported beam

1 Scope

China's national standard for the precast post-tensioned prestressed concrete simply supported box girders used on high-speed railways. It specifies the technical requirements, the test methods, the inspection rules, the marking and manufacturing certificate, and the storage and transport. These girders are the single most numerous major structural component of the Chinese high-speed network: most of the line is on viaduct, and most of that viaduct is a succession of thirty-two metre box girders, each weighing around nine hundred tonnes, cast in a yard beside the alignment and placed by a launching machine that runs along the completed deck. Standardising them is what made the construction rate possible. The requirements that matter are dimensional and dynamic rather than merely structural: the track above must stay within millimetres of its designed geometry for decades, so the girder's camber, its long-term creep and shrinkage, and its natural frequency under a passing train are all specified alongside its strength.

This standard specifies the technical requirements, inspection methods, inspection rules, markings and pre-stressed prestressed concrete simply supported beams of high-speed railways. Manufacturing technical certificate, storage and transportation. This standard

applies to high-speed railway prefabricated post-tensioned prestressed concrete simply supported beams (hereinafter referred to as "precast beams").

2 Normative references

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

GB/T 176 cement chemical analysis method

GB/T 197 ordinary thread tolerance

GB/T 700 carbon structural steel

GB/T 1346 Cement standard consistency water consumption, setting time, stability test method

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

GB/T 1499.2 Steel for reinforced concrete - Part 2. Hot rolled ribbed bars

GB/T 5224 steel wire for prestressed concrete

GB/T 5836.2 Hard polyvinyl chloride (PVC-U) pipe fittings for building drainage

GB/T 8077 concrete admixture homogeneity test method

GB/T 17671 Cement mortar strength test method (ISO method)

GB/T 20221 Non-pressure buried sewage, hard polyvinyl chloride (PVC-U) pipe for wastewater

GB/T 50080 Standard Test Method for Performance of Concrete Mixtures

GB/T 50081 Standard test method for mechanical properties of ordinary concrete