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

GB 146.2-2020

Replacing GB 146.2-1983

Gauge for standard gauge railways - Part 2: Structure gauge

标准轨距铁路限界 第2部分：建筑限界

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Table of Contents

- 1 Scope
- 2 Terms and definitions
- 3 General
- 4 $V \leq 160$ km/h passenger and freight railway structure gauge
 - 4.1 Basic structure gauge
 - 4.2 Tunnel structure gauge
 - 4.3 Bridge structure gauge
- 5.1 Basic structure gauge
- 5.2 Bridge and tunnel structure gauge
- 6 Passenger dedicated line structure gauge

Foreword

GB 146, Gauge for standard gauge railways, is divided into two parts. -- Part

1 Scope

Part 2 of China's mandatory railway gauge standard, defining the structure gauge - the outline outside which nothing may be built beside or above the track. It is the companion of Part 1, which defines the rolling stock gauge, and between the two lies the clearance on which the whole network depends. The standard specifies the structure gauge for standard gauge railways, the way it is applied and the requirements on the structures that stand near the line. It applies to the survey, the design, the construction, the acceptance and the maintenance of railway lines and of the structures beside them. What it contains is the outline itself, given as coordinates and drawings for the different cases the railway actually presents: plain line and station, straight track and curve, where the outline must be widened for the throw of a long vehicle, and the special cases of the electrified line, where the contact wire and its supports impose their own dimensions, of the tunnel, of the overbridge and of the platform edge - the one structure that is deliberately placed as close to the vehicle as the standard allows. To those are added the rules for applying the gauge: how the outline relates to the track centre rather than to the formation, how it changes with the design speed and the curve radius and cant, the clearance between two tracks, and the treatment of a temporary structure during works, which is where infringements are most often introduced and then forgotten. Issued on 11 October 2020 and in force since 1 May 2021, it replaces GB 146.2-1983.

This Part of GB 146 specifies the basic structure gauge, tunnel structure gauge, bridge structure gauge and bridge and tunnel structure gauge of 1 435 mm standard gauge railway tracks. This Part applies to the design, construction, operation and maintenance of the following standard gauge railway tracks. -- $v \leq 160$ km/h passenger and freight railway; -- $v > 160$ km/h passenger and freight railway; -- Passenger dedicated railway.

2 Terms and definitions

The following terms and definitions are applicable to this document.

2.1 Structure gauge The limit cross-sectional contour perpendicular to the center line of the track. Within this contour, except for rolling stock and the equipment interacting with rolling stock and related equipment (such as vehicle reducer, contact wire, hanging string, locator), other equipment or structures shall not be invaded.

3 General

3.1 Whether it is a new rail or an old rail (including the long-term replacement of heavy rail thickened track beds), the structure gauge dimension that is calculated from the rail surface shall meet the requirements.

3.2 The dimensions on each structure gauge drawing of this Part are based on the track on the horizontal straight road.

4.3 Bridge structure gauge

5 $v > 160$ km/h passenger and freight railway structure gauge

5.2 Bridge and tunnel structure gauge

5.2.1 The bridge and tunnel structure gauge in the internal combustion traction section adopts the contour dimensions of the bridge gauge-1, as shown in Figure

5. It is applicable to the $v > 160$ km/h internal combustion traction passenger and freight railways which are newly built or rebuilt after 2003.

6 Passenger dedicated line structure gauge

6.1 Structure gauge-4 is the basic structure gauge of passenger dedicated line railways, as shown in Figure 9.

6.2 Structure gauge-4 is applicable to passenger special railways which are newly built and rebuilt after 2000.

6.3 The widening amount of the structure gauge on the curve. When the maximum width of the structure gauge is 4 880 mm, calculate the widening amount W_1 inside of the curve

according to Formula (4)

6.4 For the structure gauge of signal machine and overhead line system, flyover, overbridge, electric lighting, canopy and other bolt supports and elevated waiting room structure column, the structure gauge of the short starting signal that runs in the opposite direction in the station, and station structure gauge, see

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