

TB

**RAILWAY INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

TB/T 2344.1-2020

**Rail - Part 1: 43kg/m ~ 75kg/m rails
(English Translation)**

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Foreword

Sub-ballast is an important part of the ballast bed of railways and is located between the ballast layer of the ballast bed and the surface layer of the subgrade bed. It plays the role of transmitting and distributing the train loads, preventing mutual penetration of top-ballast and surface layer particles of subgrade bed, water seepage transition and antifreeze-and-insulation. In the past, China borrowed the experience of using river sands as sub-ballast from the former Soviet Union. Since there is no material standard, the above-mentioned functions of the sub-ballast cannot be guaranteed and the material source of the sub-ballast is limited. On the basis of reference to the relevant standards such as the sub-ballast material standards of the United States Railway Engineering Association (AREA), Japan railway subgrade bed surface layer (JISA5001 particle size transitional gravel layer) material standards, combining China's national conditions and railway situation, this Standard is developed.

This Standard is proposed by Railway Engineering Research Institute of China Academy of Railway Sciences.

This Standard is under the jurisdiction of Institute of Standard Metrology of National Railway Administration of the People's Republic of China.

Railway Engineering Research Institute of China Academy of Railway Sciences is responsible for the drafting of this Standard.

Main drafters of this Standard. Zeng Shugu, Zhang Wensheng, Xu Yongxian, Wang Hong, Liu Zengjie.

Sub-ballast for ballast bed of railways

1 Scope

This Standard specifies the technical requirements, inspection rules and transportation, storage of sub-ballast for ballast bed of railways (hereinafter referred to as sub-ballast).

This Standard applies to national railways; local railways and industrial enterprise railways may also refer to this Standard.

2 References

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

TB/T 2140-90 Railway ballast

TB/T 2328.1~18-92 Test method for railway ballast

3 Terms

The plasticity index I_p . the plasticity index is equal to the difference between the liquid limit LL and the plastic limit PL.

4.1 Sub-ballast material may be taken from natural gravel material, or may be taken

from rocks or natural pebbles, gravels by crushing, screening.

4.3 The mass percentage of particles with broken surface in coarse particles with a

particle size greater than 16 mm is not less than 30 %.

5 Inspection rules

Sub-ballast material shall be subjected to type inspection and production inspection.

The type inspection is a ministerial level, and the production inspection is a bureau level.

5.2.2 According to the requirements of 4.2 to 4.4, the production organization carries

out an inspection when every 4×10^4 m³ of sub-ballast are produced. If the annual output is less than 4×10^4 m³, the inspection shall be carried out once a year.

5.3.2 The sodium sulfate solution soaking loss test shall be in accordance with TB/T

2328.10.

5.3.3 The liquid limit and plasticity index test shall be in accordance with TB/T 2328.8

and TB/T 2328.9.

5.3.4 The granular soil and other impurities content test shall be in accordance with

TB/T 2328.17.

6.1 In the stockpile site, it shall prevent the infiltration of clay, debris and dust, and

ensure that the sub-ballasts are clean. When shoveling, it shall prevent the shoveling of soil.

TB/T 2897-1998

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PROFESSIONAL STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

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