

TB

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

TB/T 2487-2016

Test method for dynamic stress of subgrade

路基动应力测试方法

(English Translation)

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Foreword

The method of testing for wheel surface defect specified in this Standard is equivalent to that specified in ISO 6933. 1986 "Railway Rolling Stock Material - Magnetic Particle Acceptance Testing".

The formulation of TB/T 2817-1997 "Technical Specifications for Integral Steel Wheel of Railway Rolling Stock" is equivalent to UIC 812-3 "Technical Specifications of Delivery of Integral Unalloyed Steel Wheels for Railway Rolling Stock"; it only specifies magnetic particle test on wheel web. In recent year, wheel cracks occur more frequently, especially on wheel rim, while the high speed heavy-load trains develop. Therefore, this Standard specifies the defect testing positions on wheel rim and web. Magnetic particle test for wheels shall comply with the relevant requirements of this Standard. This Standard was proposed by Qishuyan Railway Rolling Stock Process Institute. This Standard is under the jurisdiction of Qishuyan Railway Rolling Stock Process Institute.

Chief drafting organizations of this Standard. Qishuyan Railway Rolling Stock Process

Institute AND Metals and Chemistry Research Institute of the Ministry of Railways
Academy of Science.

Participating organizations of this Standard. Qishuyan Railway Rolling Stock Process
Institute, Puzhen Railway Rolling Stock Co., Ltd. AND Qiqihar Railway Rolling Stock
Co., Ltd.

Chief drafting staffs of this Standard. Huang Yongwei, Li Lianxiu, Gao Jinsheng, Xie
Ning and Peng Shanbai.

This Standard is issued for the first time.

Railway Rolling Stock Wheel -

Magnetic Particle acceptance Testing

1 Scope

This Standard specifies a method for detection by means of magnetic particle
acceptance testing of new railway roiling stock wheel.

This Standard is applicable to magnetic powder test for surface defects on new railway
rolling stock wheel rim and web.

2 Normative Reference

The provisions of the following standards, through reference by this Standard,
constitute the provisions of this Standard. When this Standard is published, the editions
indicated are valid. All standards are subject to revision. The parties concerned are
encouraged to study the possibility of applying the latest editions of the following
standards.

TB/T 2047-1996 Technical Specifications for Non-fluorescent Magnetic
Particles of Magnetic Particle Test for Railway Rolling Stock

TB/T 2600-1996 Technical Specifications for Fluorescent Magnetic Particles of
Magnetic Particle Test for Railway Rolling Stock

JB/T 8290-1998 Magnetic Particle Detector

JJG (railway)

155-1995

Magnetic Particle Detector

3.1 The personnel undertaking magnetic powder test for wheel must master sufficient

congruent knowledge and understand the requirements of this Standard.

3.2 The inspection personnel must obtain technical qualifications of magnetic particles level-II or above issued by the Committee of Qualification and Certification of NDT Personnel in Railway Industry.

7.2.2 Indications believed to be spurious should be re-tested after cleaning the surface.

7.2.3 If it cannot be judged after retests, these indications may be further examined

by other method to reveal their nature.

8 Demagnetization

The remanence shall not be greater than $7 \times 10^{-4} T$.

9 Acceptance

The surface to be inspected shall not have crack; non-crack defect shall not exceed 6mm.

10 Inspection

The inspection report shall include the following information.

- a) The date of inspection;
- b) The place of inspection;
- c) Symbols for product and material, e.g. name, number, drawing number, heat number and quantity of product and material;
- d) Inspection conditions.
 - 1) Inspection device (name, model, manufacturer);
 - 2) Magnetization method;

- 3) Characteristics of magnetic particles (manufacturer, quantity);
- 4) Carrier liquid;
- 5) Method of magnetic particles application;
- 6) Method of sensitivity setting (test piece name or other method).
- e) The inspection conclusion.

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