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Machinery Industry Standard of the People's Republic of China

JB/T 7155-2007

Replace 7155-1993

轮式工程机械车轮技术条件 Wheel for wheeled construction machinery—Technical specifications

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Foreword

This Standard replaces JB/T 7155-1993 *Wheel for wheeled construction machinery — Technical specifications*.

Compared with JB/T 7155-1993, the major changes are as follow:

- DIVIDE the Chapter 3 into Chapter 3 and Chapter 4, and REARRANGE the provisions;
- MODIFY the requirements to trademark of the predetermined materials into the requirements to mechanical properties of materials.
- The bending fatigue test of wheels is changed from bench-test to accompany-host operating test;
- ADD the roundness tolerance of the lock ring and gutter; and INCREASE the flatness tolerance of the welding ends and the roundness tolerance of the bore of retaining ring;
- MODIFY the flatness tolerance of lock ring and retaining ring; and MODIFY the gap of lock ring fitting onto the test cylinder and the roundness tolerance of retaining ring;
- ADD the requirements of seat ring;
- ADD the requirements of quantity of welding seam of wheel disc;
- Wheel packaging is changed from banded with rope, no less than 3 bands TO that it shall comply with the provisions of railway and highway transportation;
- DELETE “When there are special requirements for acceptance, it shall be agreed by both supply-demand parties”;
- DELETE quality warranty period.

This Standard is proposed by China Machinery Industry Association.

This Standard is under the jurisdiction of Technical Committee of Machinery Industry Mechanical Engineering Standardization.

This Standard is responsibly drafted by: Tianjin Institute of Construction Machinery, Shandong Engineering Machinery Steel Ring Factory, Chengdu Engineering Machinery steel rim Co. Ltd, Feicheng City Yun Yu Steel Co. Ltd, Steel ring factory of

Liuzhou City, Handan City Shing Construction Machinery Co., Ltd, and Nanchang gear forging factory.

Participating in the draft of this Standard: Anyang Hongyuan Steel Co., Ltd.

This Standard is mainly drafted by: Shang Haibo, Chen Yongxiang, Sun Zhaohua, Xin Jiang, Lin Zhiping, Zhang Hong, Wang Xuetian, Peng Yuanhui, Li Guangqing, and Xu Xiangshan.

The release condition of previous standard replaced by this Standard:

——JB/T 7155-1993.

Wheel for wheeled construction machinery — Technical specifications

1 Scope

This Standard specifies the wheel for wheeled construction machinery – type, marks, requirements, test methods, inspection provisions, signs, packaging, transport and storage.

This Standard applies to wheel for wheeled construction machinery.

2 Normative references

The following normative documents contain provisions which, through reference in the text, constitute provisions of this Standard. For dated reference, subsequent amendments or revisions (excluding contents of corrigenda) do not apply. However, parties who enter into agreement based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. For undated references, the latest edition of the normative document referred to applies.

GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (GB/T 2828.1—2003, ISO 2859-1: 1999, IDT)

GB/T 2883 Series of off-road rims (GB/T 2883—2002, IOS4250-3: 1997, MOD)

GB/T 2933 Wheels and rims for pneumatic tires. Vocabulary, designation and marking (GB/T 2933-1995, eqv IOS/DIS 3911: 1993)

GB/T 9769 Rim contour inspection (GB/T 9769—2005, TRA: 2002, NEQ)

JB/T 5943 Construction machinery - The general specifications of welding

JB/T 5946 Construction machinery - The general specifications of painting

JB/T 7154-1993 The using of steel of Wheel for wheeled construction machinery - Technical specifications

JB/T 7698 The mounting Dimensions of wheel disks and hub of rubber-tire loader

be more than 1.5mm;

b) When the nominal diameter of the rim is more than 635mm, it shall not be more than 2.5mm;

c) When the nominal diameter of the rim is greater than 889 mm, it shall not be greater than 3mm.

4.6 Bead seat

4.6.1 The thickness reduction of fillet radius of the bead seat of the rim and pressure-delayed wheel rim shall not exceed 15% of the actual size of the thickness of the pressed base metal. Crack is not allowed.

4.6.2 The area of fillet radius of bead seat and the matching area between rim and tire shall be smooth.

4.7 Seat ring

4.7.1 Seat ring shall be smooth, flat and shall be agile for disassembly-assembly.

4.7.2 Roundness tolerance of seat ring shall comply with the following requirements:

a) When the nominal diameter of wheel rim is less than or equal to 889mm, it shall not be greater than 1.0mm;

b) When the nominal diameter of wheel rim is greater than 889 mm, it shall not be greater than 1.5 mm.

4.8 Valve hole

Surrounding area of valve hole does not allow burr and edge.

4.9 Wheel disk

4.9.1 Wheel disk shall be manufactured with steel plate with not-more-than 1 welding seam.

4.9.2 The flatness tolerance of wheel disk mounting surface shall comply with the following requirements:

a) When the nominal diameter of rim is less than or equal to 406.4mm, it shall not be greater than 0.4mm;

b) When the nominal diameter of rim is greater than 406.4 mm or is less than or equal to 635mm, it shall not be greater than 0.6 mm;

c) When the nominal diameter of rim is greater than 635 mm , it shall not be greater

50mm~70mm;

b) When the diameter of lock ring is equal to or more than 508 mm, it shall be pulled 70mm~90mm;

5.3.2 The roundness tolerance of lock ring shall be tested by fitting the lock ring onto test cylinder, and the gap shall be at 1/4-at-least arc length with evenly reduced on both sides (4.3.2).

5.4 Bending fatigue strength test of wheel shall operate for 1000h with the host-machine before it is disassembled, and inspect the deformation (4.2.4).

5.5 The tightness test of the tubeless wheel – MOUNT the tire on the wheel, INFLATE to slightly larger than the rated pressure, PLACE at room temperature for 72h and TEST with tire pressure gauge (4.10).

6 Inspection Provisions

6.1 Wheel shall be tested by the quality inspection department of the manufacturer according to the drawings, relevant documents and this Standard, only after test pass can it leave the factory.

6.2 Wheel's surface quality, bead seat, perimeter and location of bolt holes shall be checked for each product, and the remaining items may be sampling-tested.

6.3 Sampling inspection of wheels shall comply with provisions of GB/T 2828.1, this Standard selects the following programs:

- a) Batch: 100 pieces of wheels as 1 batch;
- b) Inspection level: general level II;
- c) Pass quality level: AQL=10;
- d) Accuracy of sampling plan: normal inspection, transfer rules may be used.
- e) Type of sampling plan: using one-time sampling plan.

7 Signs, Packaging, Transport and Storage

7.1 The wheels shall be marked at the prominent location:

- a) Manufacturer's name or trademark;
- b) Product name;

- c) Wheel's sign;
- d) Inspection sign;
- e) Manufacturing date or production serial number.

7.2 Wheel's packaging shall comply with the requirements of railway and highway transportation and ensure normal transportation without damage.

7.3 When transporting the wheel, its surface shall not have a serious bump and scratch.

7.4 Product passing inspection shall be placed at location without corrosive media, and stored at location with ventilation, dry and measures of rain-proof.

References and Original Chinese Documents

[1] JB/T 7155-2007 Wheeled Construction Machinery Wheel technical conditions.

<http://www.chinesestandard.net/Default.aspx?PDF-English-ID=JB/T%207155-2007>

[2] GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection.

<http://www.chinesestandard.net/Default.aspx?StdID=GB/T%202828.1>

[3] GB/T 2933 Wheels and rims for pneumatic tires. Vocabulary, designation and marking. <http://www.chinesestandard.net/Default.aspx?StdID=GB/T%202933>