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PEOPLE'S REPUBLIC OF CHINA**

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**Code for Design on Steel Structure of Railway Bridge
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative References...	4
3 Terms and Definitions...	4
4 Technical Requirements for Parts Assembly...	5
5 Classification and Selection of Wheelsets Assembly Methods...	7
6 Technical Requirements for Wheelsets Assembly...	7
7 Test...	13
8 Marking...	16
9 Protection...	17
Annex A (Normative) Pressure Curve Graphs of Oiling Press-Fitting...	18
Annex B (Normative) Pressure Curve Graphs of Press-Fitting I...	22
Annex C (Normative) Pressure Curve Graphs of Press-Fitting I...	25
Annex D (Normative) Final Pressing Force of Press-Fitting II...	32

Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces TB/T 1463-2006 "Technical Specification for Wheelsets Assembly of Railway Locomotive". Compared with TB/T 1463-2006, the main changes of the technical content of this standard are as follows.

- The modification of the definition of pressure test (See 3.4; 3.6 of 2006 edition);
- The deletion of the provision of residual stress of axle (See 4.2.5 of 2006 edition);
- The addition of the "classification and selection of wheelsets assembly methods" (See Chapter 5);
- The modification of solid wheel interference ratio and oiling pressure range (See Table 3; Table 2 of 2006 edition);
- The modification of technical requirements of storage period of components prior to assembly (See 6.1.5; 5.1.6 of 2006 edition);

- The addition of molybdenum disulfide lubricant (See 6.2.2 and 6.4.2);
- The addition of the provision of pressure curve and final press force of 1 press-fitting method of solid wheel to axle (i.e. press-fitting II) (See Annex C and Annex D);
- The addition of the provision of final press force inspection of press-fitting (See

7.1.3 and Table 6);

- The deletion of quality assurance content (See Chapter 9 of 2006 edition).

This standard is proposed and shall be administered by CSR Qishuyan Institute Co., Ltd.

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1 Scope

This standard specifies the terms and definitions of the assembly of new wheelsets, the technical requirements of the assembly parts, the classification and selection of the assembly methods of wheelsets as well as the technical requirements, inspection requirements, marking and protection of wheelsets assembly of railway locomotives.

This standard is applicable to the assembly of solid wheel, wheel core, tyred wheel and other components with axle for newly wheelsets of railway locomotives.

2 Normative References

The following documents are essential to the application of this standard. For the dated references, only the dated editions apply to this standard. For the undated references, their latest editions (including all amendments) apply to this standard.

GB/T 5371-2004 Limits and fits - The Calculation and Selection of Interference Fits

TB/T 1400 Technical Specifications for Cast Steel Wheel Core for Railway Locomotive

TB/T 1882-2001 Technical Specifications for Ordering Rough-Rolled Tyres for

Railway Locomotive

TB/T 2015-2001 Types and Dimensions of Rough-Rolled Tyres for Railway

Locomotive

TB/T 1027.1 Technical Conditions for Locomotive Axle - Part 1. Billets

TB/T 1027.2 Technical Conditions for Locomotive Axle - Part 2. Locomotive Axle

3 Terms and Definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 Oiling press-fitting

An assembly method in which, during the wheelsets press-fitting process, high pressure oil is injected in between wheel seat and hub bore which exceeds their contact stress, in order to form an oil film, and in which, along with the increase of the

6.2.2 Prior to press-fitting, the surface of the axle wheel seat and the surface of the

wheel hub inner bore shall be smeared evenly with pure vegetable oil or molybdenum disulfide.

6.2.3 During press-fitting, the center line of the axle shall be consistent with the center

line of the press piston. The pressing speed shall be 0.5 mm/s ~ 5 mm/s.

6.2.4 The acceptable pressure curves shall be that the pressure increases gradually

with the increase of the pressing distance when oiling, and that the pressure decreases gradually with the increase of the pressing distance when not oiling. The pressure is minimum when it is finished pressing, and is less than 196 kN. In the process of oiling press-fitting, the oiling pressure is allowed to fluctuate within the range specified. See Annex A for the pressure curve graphs of oiling press-fitting; the pressure curves without oiling are allowed to have spikes as shown in Fig. C.3 of Annex C.

6.2.5 During the oiling press-fitting of wheelsets, the press machine is allowed to stall

midway. After press-fitting, the residence time is not limited and it is allowed to adjust the medial distance and phase angle freely.

6.2.6 Each pressure curve graph of wheel oiling press-fitting shall be indicated with.

manufacturer name (or manufacturer code), vehicle type (wheelset type), axle number, wheel number, hub bore diameter, side, seat diameter, oiling pressure value and press-fitting date.

6.3.2 The shrink fitting shall be conducted after the heating of solid wheel or core; the

wheel installed with tyre is not suitable for shrink fitting. The heating temperature shall not exceed 250°C. The surface of the hub bore shall be prevented from oxidation during heating.

6.3.3 The solid wheel or core shall be wiped clean after they are taken out from the

heating place. After they are assembled to the correct position of the axle, they shall be cooled indoors under normal temperature until the solid wheel or core are fastened on the axle seat; they shall not be cooled by forced cooling.

6.4.2 Prior to press-fitting, the surface of the wheel axle seat and the surface of the

wheel hub inner bore shall be smeared evenly with pure vegetable oil or molybdenum disulfide.

6.4.3 During press-fitting, the center line of the axle shall be consistent with the center

bore diameter, side, seat diameter, oiling pressure value and press-fitting date.