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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 154-2013

Replacing GB 154-1984

Wooden sleepers

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Issued on: November 12, 2013 **Implemented on: September 11, 2014**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

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Foreword

The standard Chapter 5, Chapter 6, are mandatory, the rest are recommended. This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB 154-1984 "sleepers." This standard compared with GB 154-1984, the main changes are as follows:

--- Name to standard wooden pillow.

--- Adjust the main species.

--- Increasing the terminology section.

--- Adjust the size and requirements of deviation wooden pillow.

--- Adjust the appearance of expression of mass wane. This standard was proposed by the State Forestry Administration. This standard by the National Standardization Technical Committee timber (SAC/TC41) centralized. This standard is drafted by: Academy of Forestry in Heilongjiang Province, Heilongjiang Vocational Institute of Ecological Engineering. Participated in the drafting of this standard. Guilin Forestry Timber Corporation, Manzhouli and Russia (Shen iron) wood preservative Ltd., Harbin Railway Railway Administration Public Works Department, Wuhan wood preservative plant, Yingtan wood preservative plant, zhenlai wood-preserving plant, the Guangzhou Railway Group Works Department, Shenyang Railway Bureau, the total Engineer room. The main drafters of this standard. Xuqing Fu, Xu Bin, Xu Xing, put off, Zhang Yan, Tie force, Wang Zhonghua, Zhang Tao, Chen Han bridge, offering white red, Fanliang Sen, Zhang Yin, Guoqing Tao, Qinling segment Lijun, Liu Li added, Ma Pengcheng. This standard previously issued as follows:

--- GB 154-1984. Wooden pillow

1 Scope

China's mandatory standard for wooden railway sleepers - the timbers that hold the two rails to gauge and spread the axle load into the ballast, and that have to keep doing it through thirty years of weather, spike holes and traffic. It specifies the terms and definitions, the classification, the technical requirements and the test methods for wooden sleepers, and it applies to ordinary sleepers, switch and crossing timbers and bridge sleepers for standard gauge railway. The classification separates those three families, since a switch timber and a bridge sleeper are cut to different lengths and sections and are held to different limits from an ordinary sleeper. The technical requirements set the species that may be used, the nominal dimensions and the permitted deviations, the sawing quality assessed in accordance with GB/T 4822, and the defects the piece may carry and to what extent - the knots, the slope of grain, the checks, shakes and splits, the wane, the decay and the insect damage - graded in accordance with the sawn timber defect standard GB/T 4823 and named with the terms of GB/T 11917, with the volume taken from the sawn timber volume tables of GB/T 449. Issued on 12 November 2013 and in force since 11 September 2014, it replaces GB 154-1984 and is held by SAC/TC 41.

This standard specifies the terms and definitions wooden pillow, classification, technical requirements and test methods. This standard applies to standard gauge railway ordinary wooden pillow, wooden pillow turnout and bridge wooden pillow.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 449 sawn timber volume table GB/T 4822 Test sawmills

GB/T 4823 sawn timber defects

GB/T 11917 lumber term process

3 Terms and Definitions

GB/T 4823 and GB/T 11917 and as defined in the following terms apply to this document.

3.1 With wooden pillow rail contact surface.

3.2 The vertical distance pillow surface and bottom of the pillow.

3.3 Wooden pillow and subgrade contact surface. Category 4

4.1 wooden pillow use is divided into ordinary wooden pillow, wooden pillow turnout and bridge wooden pillow.

4.2 ordinary wooden pillow type I and type II ordinary wooden pillow ordinary wooden pillow.

5 Range

5.3 pillow laying surface Range laying pillow face is shown in Table 4. Table 4 range laying face pillow Laying face pillow range name Ordinary wooden pillow from the inner ends of the first length range 30cm ~ 70cm 35cm length of the intermediate portion is removed after the wooden pillow turnout from both ends of the head Length of the middle part of the bridge after removing the wooden pillow 55cm from both ends of the head

5.4 defects allowable limit

5.4.1 defects allowed limits shall comply with the requirements of Table 5. Table 5 defect allowable limit Defects name Allowable limit First grade second product Articulated within the pillow face laying dead knots not exceeding the maximum size range 6cm pillow face laying range does not exceed the maximum size 8cm decay Section Depth allows only one end, no more than 2% of long pillow Decayed area where the area does not exceed 3% of the cross-sectional area Allowing a slight rotten wood surface, the area where the material does not exceed 1% of the surface area crack Leather folder Longitudinal, outer leather folder length does not exceed 40cm length does not exceed 60cm Round split within the leather folder chord length not exceeding 10cm chord length not exceeding 20cm bending Shun bend no more than 1% cis bend no more than 2% Horizontal bend not exceed 4% of the cross bend shall not exceed 6% Poles within the scope of the number of laying pillow face no more than

5 Any Ordinary wooden pillow Pillow face I type maximum chipping size of not more than 60mm II type maximum chipping size of not more than 50mm Turnout wooden pillow pillow face maximum chipping size of not more than 60mm Wooden bridge pillow pillow face maximum chipping size of not more than 40mm, 30mm and no more than one side Ordinary wooden pillow, wooden bridge pillow pillow bottom maximum chipping size of not more than 10mm Turnout wooden pillow pillow bottom maximum chipping size of not more than 20mm NOTE. wane cutaway size can be on one side of the pillow face, but also on both sides of the pillow face. 5.4.2, second product is suitable for ordinary wooden pillow.

5.4.3 First grade used in bridges and wooden pillow turnout wooden pillow.

5.1 Applicable species

5.1.1 ordinary wooden pillow, wooden pillow turnout. Liquidambar (L.formosanaHance), Larch [. L.gmelini (. Rupr) Ruor], Masson pine (P. massonianaLamb.), slash pine (P.ellioti Engelm.), Yunnan pine (P.yunnanensisFranch.), Spruce (Piceaspp.), cold Fir (Abiesspp.), Hemlock (Tsugaspp.), Pinus sylvestris (P.syluestrisvar.mongolicaLitv.), Pinus radiata (P.radiata), and He imports applicable species.

5.1.2 Bridge wooden pillow. Larch [L.gmelini (Rupr.) Ruor.], Armandi (PinusarmandiFranch.), Simao pine [P. kesiyavar.langbianensis (A.chev.) Gaussen], mountain pine (P.densata Mast.), Yunnan pine (P.yunnanensis Franch.), Spruce (Piceaspp.), Fir (Abiesspp.), Hemlock (Tsugaspp.), Pine (PinuskoraiensisSieb.et Zucc.), Pinus sylvestris (P.syluestrisvar.mongolicaLitv.), And other applicable import species.

5.2 Dimensions and tolerances

5.2.1 ordinary wooden pillow, wooden pillow turnout dimensions are shown in Table 1. Table 1 ordinary wooden pillow, wooden pillow turnout dimensions name Long pillow High pillow mm Pillow wide mm Ordinary wooden pillow 2.50 160 220 Type I Type II 2.50 145 200 Wooden pillow turnout 2.60 ~ 5.00 (0.20m by 0.15m or upgrade) 160 220 240 260

5.2.2 wooden bridge pillow dimensions are shown in Table 2. Table 2 wooden bridge pillow size Long pillow 3.00 3.20 3.40 4.20 ~

4.80 Pillow wide mm 220 240 220 240,240,200,220,240 High pillow mm 240 260 280 260 280,300,280,300,300 220,240,260,280,300

5.2.3 wooden pillow dimensional deviations are shown in Table 3. Table 3 wood pillow the size of the deviation name Long pillow cm Pillow wide mm High pillow mm Deviation ± 4 ± 10 ±

6 Test method

6.1 wooden pillow section size in order to get the amount within the range of dimensions laying prevail.

6.2 wooden pillow laying outside the scope of the saw unit is not allowed, but must not exceed the dimensions of width and thickness allow deviation twice the limit.

6.3 knots in the wood sleeper, Poles defects in the surface of the pillow laying scoped only, other parts are not limited.

6.4 calibration section decay depth to flat foot stickers section, and the vertical ruler to measure, or sample drill calibration. 6.5 I type ordinary wooden pillow pillow pillow width or height exceeds the negative deviation limit, should be reduced to II type of ordinary wooden pillow.

6.6 pillow wood volume calculated by ordinary wooden pillow root equivalent cubic meter; pillows and wooden bridge wooden pillow turnout by cubic meter, single volume from GB/T 449 in Richard. Calibration method

6.7 wooden pillow defects, in addition to the provisions of this standard, according to the implementation of other provisions of GB/T 4823 and GB/T 4822's.