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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 8392-2026

Replacing GB/T 8392-2007

Uneven bars

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5.1.1 Appearance

5.1.1.1 The surface of the horizontal bar should be made of wood or natural fiber material, with uniform thickness and natural color; the surface should be smooth and free of cracks and twists.

5.1.1.2 All easily accessible parts of the high and low bars should not have sharp edges.

5.1.1.3 The protective coating on metal parts should be free from defects such as missed coating, blistering, and pinholes.

5.1.1.4 The weld should be smooth and free from defects such as incomplete welds, incomplete welds, and obvious weld beads.

5.1.2 Structure

5.1.2.1 The two horizontal bars should have similar and uniform elasticity.

5.1.2.2 The crossbar and the upright should be hinged and fixed firmly and reliably; the crossbar should be hygroscopic and allow magnesium powder to adhere to it.

5.1.2.3 The spacing between the horizontal bars should be infinitely adjustable or adjustable in stages. The adjustment mechanism should be tightly fitted, flexible in

operation, and securely locked.

5.2 Basic Dimensions The basic dimensions and their limit deviations shall conform to the specifications in Figure 1 and Table 1.

5.3 Performance

5.3.1 Static traction deformation The static traction deformation should meet the requirements of Table 2.

5.3.2 Oscillating Load and Deformation The swing load and deformation of the competition-type uneven bars should meet the requirements of Table 3.

5.3.3 Vibration frequency and half-amplitude period The vibration frequency and half-amplitude period of the competition-type uneven bars should conform to the provisions of Table 4.

5.3.4 Ultimate Load of the Cable System After the test in 6.3.5, the rope system should not come loose, detach from the weld, or break. The rope tensioner should operate flexibly, and there should be no visible residue after the external force is removed. Deformation.

5.3.5 Corrosion resistance of electroplated coating After the test in 6.3.6, the electroplated parts should not show signs of corrosion.

6 Test Methods

6.1 Appearance and Structure Sensory inspection was conducted under normal lighting conditions.

6.2 Basic Dimensions Use a vernier caliper with a graduation of

0.02 mm and a steel tape measure with a graduation of

0.5 mm and a measuring range of 6 m to measure the straightness of the horizontal bar. The degree is checked on the inspection platform using a feeler gauge with a graduation value of 0.02mm.

6.3.1 Test Conditions

6.3.1.1 The equipment should be tested after being pre-conditioned for at least 24 hours under environmental conditions of relative humidity of 30%~70% and temperature of $20^{\circ}\text{C}\pm 5^{\circ}\text{C}$; under the same conditions... All tests are performed under the specified conditions.

6.3.1.2 Install and fix the high and low bars. Adjust the distance from the upper edge of the high bar to the ground to 2650mm, and adjust the distance from the upper edge of the low bar to the ground. The inner width between the two bars should be 1.81m, and the tension

of each rope should be $2750\text{N} \pm 50\text{N}$.

6.3.1.3 The testing equipment and testing principle shall comply with Appendix A.

6.3.2 Static traction deformation The pendulum (total weight 50kg, including an additional 10kg fall weight) is suspended centrally from the horizontal bar, and a load of $1350\text{N} \pm$ is applied along the direction of the pendulum's gravity. A load of 20N was applied, and the vertical deformation at the center of the crossbar was recorded.

6.3.3 Oscillation Load and Deformation As shown in Figure 2, connect the pendulum (total weight 50kg, including a 10kg additional falling weight) to the horizontal bar, centered and suspended; then lower the pendulum from the suspension... Rotate the hanging position to the horizontal position; at this point, the side of the lever face where the pendulum is located is in the negative horizontal direction. Raise the additional counterweight inside the pendulum tube to the lowering stroke. The pendulum is rapidly released at a position of $500\text{mm} \pm 10\text{mm}$, and the displacement-time change of the midpoint of the horizontal bar and the reaction force of the pendulum are recorded by the recorder. Force-time variation. Record the maximum load, vertical deformation, and horizontal deformation in both positive and negative directions. Data are verified using five repeated tests. The average value of the procedure.

6.3.4 Vibration frequency and half-amplitude period The pendulum (total weight 50kg, including an additional 10kg drop weight) is centered and suspended on the crossbar or crossbar connector; Pull the pendulum straight down to achieve an initial tension of $1000\text{N} \pm 30\text{N}$, then quickly release the pendulum and record the displacement of the midpoint of the horizontal bar. The amplitude changes until it decays to half of its maximum value (see Figure 3); the vibration frequency and the half-amplitude time interval are calculated, and the data are taken from 5 repetitions. The average value of the retest.

6.3.5 Ultimate Load Test of the Cable System

6.3.5.1 Tensile testing machine The measuring range is 20kN, and the accuracy class is 0.5.

6.3.5.2 Testing Take a steel wire rope with a length of $500\text{mm} \pm 30\text{mm}$ and rigging at both ends, a chain with a length of $600\text{mm} \pm 50\text{mm}$, and a length of... Three sets of specimens, including a tensioner and connector with a diameter of $380\text{mm} \pm 30\text{mm}$, were fixed on a tensile testing machine with an accuracy of

0.5 grade and tested at a speed of 10mm/min. Apply a static load of 8000 N at a certain speed and hold for 5 minutes. All three groups of samples should meet the requirements of 5.3.3.

6.3.6 Corrosion resistance of electroplated coating Take the part to be tested or a specimen of the same material as the part to be tested, and conduct a neutral salt spray test

according to GB/T 10125. The test cycle is 144 hours. Observe the changes in the sample.

7 Inspection Rules

7.1 Inspection Classification Inspection is divided into factory inspection and type inspection.

7.2 Factory Inspection

7.2.1 Inspection Quantity Each high-low bar product should be inspected before leaving the factory.

7.2.2 Inspection Items The inspection shall be carried out in accordance with the factory inspection items, requirements and test methods specified in Table 5.

7.2.3 Judgment Rules All factory inspection items for the uneven bars meet the requirements; therefore, the uneven bars are deemed (qualified) upon factory inspection. If any item fails to meet the requirements, the uneven bars will be deemed (qualified). The low-profile model failed the factory inspection.

7.3 Type Testing

7.3.1 Type testing shall be conducted under any of the following circumstances.

- a) New product trial production and type approval or new product transfer to another factory for trial production and type approval;
- b) Changes in design, manufacturing process, or materials may affect product quality;
- c) During normal production, this should be carried out every 2 years;
- d) Production resumes after a shutdown of more than six months;
- e) The factory inspection results differed significantly from the previous type inspection results.

7.3.2 For type testing, one high/low bar sample shall be randomly selected from the batch that has passed factory inspection, and the type test shall be conducted according to the type test items specified in Table 5. The requirements, experimental methods, etc. are used for verification.

7.3.3 If all type test items meet the requirements, the type test is deemed qualified; if any item fails to meet the requirements, double the sampling is permitted. All items will then be re-inspected. If the re-inspection meets the requirements, the type test is still deemed (qualified); if there are still items that do not meet the requirements, the type test is deemed (qualified). The type test failed. Samples for type testing should not be delivered to the ordering party as qualified products.