

JB

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

JB/T 7334-2016

Replacing JB/T 7334-2007

Hand chain blocks

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1 Scope

This standard specifies the basic parameters, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage of hand chain blocks.

This standard applies to chain blocks, for general use, which are driven by involute spur gears.

This standard does not apply to hand chain blocks, which are used in explosive environments.

2 Normative references

The following documents are indispensable for the application of this document.

For dated reference documents, only the dated version applies to this document.

For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 9286 Paints and varnishes - Cross cut test for films

GB/T 10051.1 Lifting hooks - Part 1: Mechanical properties, lifting capacities, stresses and materials

GB/T 13306 Plates

GB/T 13384 General specifications for packing of mechanical and electrical product

GB/T 20947 Short-link chain for lifting purposes - Grade T (types T DAT and DT) fine-tolerance hoist chain

GB/T 30026 Short link chains for lifting purposes - Grade TH, fine tolerance for manually operated chain blocks

GB/T 30027 Short link chains for lifting purposes - Grade VH, fine tolerance for manually operated chain blocks

JB/T 4207.1 Hooks for manually operated lifting equipment continuous lifting and lowering operations (one operation consists a cycle of lifting, stop, lowering, stop)

4.2.7 Limit strength of whole machine

By releasing the brake, to make the tail ring limiting device work. The hand chain block shall be able to reliably bear the static tensile load, which is 2.5 times the rated capacity; meanwhile there shall be no damage.

4.2.8 Strength of whole machine

The hand chain block shall be able to reliably support a static tensile load, which is 4 times the rated capacity, for 10 minutes.

4.2.9 Lifting height

The lifting height of the hand chain block shall not be less than the specified value. It should not be greater than 12 m.

4.3.1 Hook

When the rated capacity is not more than 25 t, the hook shall meet the requirements of JB/T 4207.1. When the rated capacity is more than 25 t, the mechanical properties and materials of the hook shall meet the requirements of GB/T 10051.1. The hook shall be able to rotate 360° on a horizontal surface. The lower hook shall be equipped with a locking device.

4.3.2 Lifting chain

The lifting chain shall meet the requirements of GB/T 30026 or GB/T 30027, OR meet the requirements of the T-type chain, which is specified in GB/T 20947.

4.3.3 Hand chain

The length of the hand chain should be equal to the lifting height of the hand chain block; however, it is allowed to be less than 200 mm shorter than the lifting height. The mechanical properties shall meet the requirements of Table 7. The connecting ring of the hand chain may be exempted from welding; however, there shall be no deformation, that affects the use under the pulling force of the ultimate working load. value of the load limit protection device shall be in the range of 1.3 ~ 1.8 times the rated capacity. At the same time, it shall ensure that the lowering load function of the hand chain block is not affected.

4.5 Safety protection

4.5.2

The hand chain block shall be equipped with a tail ring limiting device. It shall meet the requirements of 4.2.7.

5.1 Test load

The test load can adopt the direct loading method by heavy objects, OR hydraulic pressure OR other loading methods that can generate test loads.

When using the heavy object method to load, the allowable deviation of the test load is

$\pm 1\%$. When hydraulic pressure or other loading methods, that can generate test loads, are used, the allowable deviation of the test load is 0 ~ 10%. The heavy object loading method shall be adopted as the basis for arbitration.

5.2 Visual inspection

The visual inspection shall include whether the specifications and/or status of all important components meet the requirements, such as:

- Hand chain, chain guide, chain stop device, brake;
- All protective devices, including protective covers, tail ring restraints, etc.;
- Hook and its connecting parts;
- Lifting chains, lifting sprockets, loose pulley and their fasteners.

5.3 No-load performance test

Hang the hand chain block on the support. Pull the hand chain, by manual method, under no-load condition. Raise and lower the lower hook once, according to the test lifting height as specified in Table 4.

5.4 Light load performance test

Install the hand chain block on the test bench. According to the test load as specified in 4.2.2 AND the test lifting height as specified in Table 4, operate the measured. The turning angle of the lifting sprocket is converted by the number of loops of the hand chains. Use the electrical measurement method as the basis for arbitration.

5.7.3 Determination by heavy weight method

When using the heavy weight method to determine, first hang the load of the rated capacity, on the hand chain block to be tested. Lift it according to the test lifting height as specified in Table 4. Then adjust the position of the lifting sprocket, so that it is at the position, where the maximum torque is applied from the lifting chain. Use hands to tighten the hand chain on the descending side.

Hang the test weight and additional weight, on the hand chain, at the lifting side.

The additional weight is 50% of the test weight. The test weight is hanging near the hand chain wheel. The additional weight is hanging at a position 200 mm from the stroke limit surface. Then let go instantly. The two weights will drop at the same time. When the additional weight is in place and stop, the test weight will drop to the lowest point, at a constant speed. At this time, the weight of the test weight is the average hand pull, F_{h1} . At the position of the lifting sprocket, where the minimum torque is applied from the lifting chain, repeat the above tests, to obtain the average hand pull, F_{h2} . The average of F_{h1} and