ICS 77.180
CCS H 94

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 47717-2026

Heavy machinery - Design specification for packaging

重型机械 包装设计规范

Issued on: May 25, 2026 **Implemented on: September 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

Table of Contents

7.1 Structural Design

7.1.1 The frame wooden box structure design shall meet the following requirements.

a) The contents weigh between 0.5t and 40t, and the external dimensions of the wooden crate are no more than 12m in length, no more than 5m in width, and no more than When the depth is 5m, it should comply with the provisions of GB/T 7284.

b) If the contents weigh more than 40t or any external dimension exceeds the dimensions described in a), the problem should be addressed by replacing materials or designing additional supports. Its load-bearing capacity can be improved through structural and other means.

7.1.2 The steel-wood crate structure design shall meet the following requirements.

a) The base should be a steel structure;

b) The side panels, end panels, and top cover should be made of wood;

c) Steel nails or bolts should be used to connect steel structural components to wooden components.

7.1.3 The metal box structure design shall meet the following requirements.

a) The metal box should be welded from structural steel and can be divided into a base, columns, upper longitudinal beams, upper transverse beams, and diagonal braces;

b) A thin steel plate should be laid on the bottom of the box as a base plate. The steel plates can be spliced together, and the joints should be located on the base beam. Intermittent welding is recommended.

7.1.4 The open-top structure design shall meet the following requirements.

a) Appropriate protective measures should be designed to ensure the protection requirements of different parts of the product;

b) For open loading, pallets or dunnage should be used, and the product should not be in direct contact with the ground.

7.1.5 The rationality requirements for structural design include, but are not limited to, the contents of Table 3.

7.2 Protection and Positioning Design

7.2.1 The protective design shall meet the following requirements.

a) Rust-proof packaging design shall comply with the provisions of GB/T 4879;

b) The design of moisture-proof packaging shall comply with the provisions of GB/T 5048;

c) Waterproof packaging design shall comply with the provisions of GB/T 7350;

d) The design of mildew-proof packaging shall comply with the provisions of GB/T 4768;

e) The design of cushioning packaging shall comply with the provisions of GB/T 8166.

7.2.2 The positioning design shall meet the following requirements.

a) The location and method of securing the product and accessories should be determined;

b) The moving parts of the product should be fixed;

c) Load calculations should include the forces generated by acceleration during transportation. Acceleration values for various modes of transportation are shown in Table 4.

7.2.3 The rationality requirements for protection and positioning design include, but are not limited to, the contents of Table 5.

7.3 Loading and unloading design

7.3.1 Information such as the distribution environment and loading and unloading conditions should be collected.

7.3.2 It should be easy to load and unload on site.

7.3.3 It is advisable to accommodate multiple loading and unloading methods (such as hoisting and forklifting) to avoid using only a single loading and unloading method.

7.3.4 The rationality requirements for loading and unloading design include, but are not limited to, the contents of Table 6. Table

6 Requirements for the Rationality of Loading and Unloading Design Unreasonable design Reasonable design description Space should be reserved for the operation of loading and unloading tools. For loading and unloading The operating position of the loading and unloading tools should be close to the pillow. Wood, to prevent the skid from breaking under

shear force.

7.4 Transportation Design

7.4.1 Transportation design should include center of gravity control, load distribution, and fixation and reinforcement.

7.4.2 The dimensions and weight of the packaging shall conform to the provisions of GB 1589 and GB/T 16471.

7.5 Logo Design The design of the logo shall comply with the provisions of GB/T 37400.13.

7.6 Green Design Green design should comply with the provisions of GB/T 16716 (all parts) and GB/T 37422-2019.

8 Experimental Verification

8.1 The packaging structure test for the complete machine and large components shall include static load strength test and dynamic load strength test. Static load strength test The test shall be conducted according to the method specified in GB/T 4857.3, and the dynamic load strength test shall be conducted by simulation.

8.2 Testing of extra-large and extra-heavy transport packages shall be conducted in accordance with the method of GB/T 5398.