

ICS 03.220.40

CCS R43



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

GB 16994.4-2023

**Safety requirements for port operation - Part 4: General cargo
container**

港口作业安全要求 第4部分：普通货物集装箱

Issued on: September 8, 2023

Implemented on: April 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 4 of GB 16994 "Safety Requirements for Port Operations". GB 16994 has released the following parts.

1. Oil, gas and chemical terminals;
2. Petrochemical reservoir area;
3. Dangerous goods containers;
4. General cargo containers;

7. Cement. This document replaces GB 11602-2007 "Safety Regulations for Loading and Unloading Operations at Container Ports". Compared with GB 11602-2007, except for structural adjustments In addition to general and editorial changes, the main technical changes are as follows:

- a) The term "bolting device" and its definition are deleted (see 3.1 of the 2007 edition);
- b) Added requirements related to the job client (see 4.2);
- c) Changed the inspection time period for containers (see 4.3, 4.3 of the 2007 version);
- d) The technical requirements for relevant loading and unloading machinery have been

changed [see 4.4, 4.2, 7.1a)1) and
8.4 of the.2007 edition];

1 Scope

Part 4 of China's mandatory safety requirements for port operations, covering general cargo containers. The hazards of a container terminal handling ordinary boxes are mechanical and they are large: quay cranes lifting forty tonnes over the water, straddle carriers and reach stackers moving at speed through stacks that block the line of sight, and stacks themselves that are six or seven boxes high and must not fall. Almost every fatality in a container yard is a person struck by a machine or caught between a box and something else, which is why the requirements concentrate on the separation of people from equipment - the traffic routes, the exclusion zones under the crane, the rules for lashers working on deck and for drivers leaving their cabs. Around them sit the stacking heights and wind limits, the condition of the twistlocks and spreaders, and the lighting.

This document specifies the general requirements for container port loading and unloading operations, as well as ship loading and unloading operations, lifting, forklift, yard storage, loading and unloading trucks, Safety requirements for horizontal transportation, unpacking and unpacking operations and emergencies. This document applies to loading and unloading operations in the general cargo container loading and unloading area of the port.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 1992 Container Terminology

GB/T 11577 Ship container fasteners

GB/T 16956 Shipping container lashings GB/T 17382 Series

3 Terms and definitions

The terms and definitions defined in GB/T 1992 and GB/T 17382 apply to this document.

4 General requirements

4.1 Personnel engaged in container loading and unloading operations should receive professional technical training, especially training on safe operating procedures and related

skills.

4.2 The operation client shall provide the port operator with the type, load and characteristics of the cargo contained in the container.

4.3 For containers entering the port area for loading and unloading, the box body should be intact and without leakage. The movable parts and cargo in the box should be firmly fixed and the load should not be heavy. It should exceed the maximum allowable load of the box or there may be unbalanced loads that affect the stability.

4.4 The container handling machinery and tools used for loading and unloading should be maintained in good technical condition; their loading and unloading capacity should be consistent with the capacity of the containers being loaded and unloaded. The condition (box type, quality) and the ship type for loading and unloading are suitable.

4.5 Before loading and unloading operations, the type, load and cargo characteristics of the container should be confirmed, and the following relevant measures should be taken.

a) Distinguish between empty containers and heavy containers, distinguish between ordinary containers and containers with special requirements for cargo and containers, and select the corresponding loading and unloading process plan;

b) For platform or rack-type containers with over-length, over-width, or over-height cargo and other containers with special loading and unloading requirements, Develop corresponding loading and unloading operation plans.

4.6 The loading and unloading operation site should meet the following requirements.

a) Traffic signs such as loading and unloading machinery, pedestrian routes, lane lines, driving directions, vehicle speeds, and no parking are clearly marked in the docks and container areas. Class traffic signs are refreshed regularly;

b) At the junction of the road and the storage area, isolation facilities such as isolation strips and isolation fences should be installed and maintained in a timely manner if conditions permit;