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

GB/T 1835-2023

Replacing GB/T 1835-2006

**Series 1 freight containers - Corner fittings technical
specifications**

系列1集装箱 角件技术要求

(English Translation)

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	2
4 Technical requirements	2
5 Test methods	10
6 Marking, Packaging and Shipping	12
Appendix A (informative) Comparison list of structure numbers between this document and ISO 1161:2016	14
Appendix B (informative) Typical spreader twist lock	16
Reference	18

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 replaces GB/T 1835-2006 "Series 1 Container Corner Fittings": Compared with GB/T 1835-2006, except for structural adjustment and compilation in addition to editorial changes, the main technical changes are as follows:

a) The scope of application has been changed, including the addition of intermediate corner pieces, and the addition of series 1 specified in GB/T 16564 and GB/T 17274:

Corner and intermediate corner fittings of containers (see Chapter 1, Chapter 1 of the:2006 edition);

b) Added a schematic diagram of the corner piece structure (see Figure 1);

c) Added provisions for 45ft container intermediate corner fittings, as well as schematic diagrams of 45ft container corner fittings and intermediate corner fittings (see 4.1, figure 2);

d) The corner fitting drawings with inch sizes have been deleted (see Figures 2 and 4 of the:2006 edition);

e) The pictures of the top right corner and the bottom right corner have been changed (see Figures 3 and 5, Figures 1 and 3 of the:2006 version);

f) Added the right middle corner piece diagram (see Figure 4);

g) Added requirements for the outer surface roughness of the corner pieces, the arc of the welding surface of the corner pieces, the square angle of the outer surface of the corner

pieces and the clearance height of the inner cavity (see 4.3:2, 4.3:4, 4.3:7 and 4.3:8);

h) Changed the requirements for chemical composition (see 4.4:1, D:3:1 of the:2006 edition);

i) Changed the requirements for mechanical properties (see 4.4:2, D:3:2 of the:2006 edition);

j) The design load requirements under various working conditions such as stacking, lifting, bolting and offset have been changed, and vertical restrictions have been added (see 4.5,:2006 version 5:1);

k) Changed the content of necessary features (see 4.6, 5:2 of the:2006 version);

l) The regulations on the minimum load-bearing area have been changed (see 4.7, Chapter 6 of the:2006 edition);

m) The test method has been changed (see Chapter 5, D:4 of the:2006 edition);

n) Changes in marking and packaging requirements (see 6.1, 6:2, Chapter 7 and D:6 of the:2006 edition);

o) Added transportation requirements (see 6.3);

p) Delete the requirements for the location and size of the rotating locking device on special container vehicles (see Chapter 8 and Appendix C of the:2006 edition):

This document has been modified to adopt ISO 1161:2016 "Specification for Series 1 Container Corner and Intermediate Corner Fittings":

Compared with ISO 1161:2016, this document has many structural adjustments: See the comparison list of structural number changes between the two documents:

Appendix A:

The technical differences between this document and ISO 1161:2016 and their reasons are as follows:

--- Regarding normative reference documents, this document has been adjusted with technical differences to adapt to my country's technical conditions: The main adjustments as follows:

- Replaced ISO 668 with GB/T 1413 (see Chapter 1, 4:5:1);
- Replaced ISO 1496-1 with GB/T 5338.1 (see Chapter 1, 4:5:1);
- Added reference to ISO 3874 (see 4.5:1);
- Added references to ASTM A609/A609M and ASTM E94/E94M (see 5.3);
- Added references to GB/T 223.5, GB/T 223.9, GB/T 223.11, GB/T 223.14, GB/T 223.18,

GB/T 223.23, GB/T 223.26, GB/T 223.59, GB/T 223.64, GB/T 223.85 and GB/T 223.86 (see 5.4);

- Added reference to GB/T 228.1 (see 5.5);

- Replaced ISO 148-1 with GB/T 229 (see 5.5):

- Added requirements that the edges of corner pieces and intermediate corner pieces should not have sharp edges, as well as surface roughness, arc of the welding surface of corner pieces, the requirements for right angles and clearance height of the inner cavity facilitate control of the production dimensions of corner pieces (see 4.3:1, 4.3:2, 4.3:4, 4.3:7 and 4.3:8);

- Added requirements for the chemical composition of materials used in casting corner parts to ensure that the mechanical property requirements of the corner parts are met (see 4.4:1);

- Changed the mechanical property requirements and added a description of the impact energy limit (see 4.4:2, Chapter 4 of ISO 1161:2016);

- Added test methods such as appearance inspection, non-destructive testing, chemical composition analysis, mechanical property testing, etc: to ensure complete corner fitting testing the aspects and methods are reasonable to facilitate overall quality control (see 5.2, 5:3, 5:4, 5:5);

- The permanent marking items of corner pieces have been changed to facilitate the quality inspection of corner pieces and facilitate practical operations (see 6.1, Section 7 of ISO 1161:2016 chapter);

- Added relevant requirements for packaging and transportation to make the standard content complete and ensure the transportation quality of corner parts (see 6.2 and 6:3);

- The railway and other test items and the corresponding Appendix A have been deleted because the test method does not conform to actual operation and the test is unnecessary (see 8.3:2~8:3:12 of ISO 1161:2016, Appendix A);

- The diagrams of corner fittings and intermediate corner fittings have been changed to facilitate control of container size and performance (see Figures 3 to 5, Figure 1 of ISO 1161:2016, image 3);

- A schematic diagram of the sampling position of the body has been added to facilitate the operation of product sampling (see Figure 8):

The following editorial changes have been made to this document:

- Changed the name of the standard, changing "Series 1 Container Corner Fittings and Intermediate Corner Fittings Specifications" to "Series 1 Container Corner Fitting Technology" Require":

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the technical requirements, test methods, marking, packaging and transportation of corner fittings and intermediate corner fittings of Series 1 containers:

Require:

This document applies to compliance with GB/T 1413, GB/T 5338.1, GB/T 7392, GB/T 16563, GB/T 16564 and Design, production and manufacturing of corner fittings and intermediate corner fittings for Series 1 containers specified in GB/T 17274 and other regulations:

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 223.5 Determination of acid-soluble silicon and total silicon content in iron and steel by reducing silicomolybdate spectrophotometry (GB/T 223.5-2008,ISO 4829-1:1986,ISO 4829-2:1988,MOD) GB/T 223.9 Determination of aluminum content in steel and alloys Chromium Azure S spectrophotometry GB/T 223.11 Determination of chromium content in steel and alloys by visual titration or potentiometric titration (GB/T 223.11-2008, ISO 4937:1986,MOD) GB/T 223.14 Methods for chemical analysis of steel and alloys - Determination of vanadium content by tantalum reagent extraction photometry GB/T 223.18 Methods for chemical analysis of steel and alloys: Separation of sodium thiosulfate-Determination of copper content by iodometric method GB/T 223.23 Determination of nickel content in steel and alloys by diacetyl oxime spectrophotometry GB/T 223.26 Determination of molybdenum content in steel and alloys Thiocyanate spectrophotometry GB/T 223.59 Determination of phosphorus content in steel and alloys bismuth phosphorus molybdenum blue spectrophotometry and antimony phosphorus molybdenum blue spectrophotometry GB/T 223.64 Determination of manganese content in steel and alloys by flame atomic absorption spectrometry (GB/T 223.64-2008, ISO 10700:1994,IDT) GB/T 223.85 Determination of sulfur content in steel and alloys by induction furnace post-combustion infrared absorption method (GB/T 223.85-2009, ISO 4935:1989,IDT) GB/T 223.86 Determination of total carbon content of steel and alloys by induction furnace post-combustion infrared absorption method (GB/T 223.86-2009,ISO 9556:1989,IDT) GB/T 228.1 Tensile testing of metallic materials Part 1: Room temperature