CSC Design Number: T-068-2026
Date Certified: 10/4/2026
Valid Until: 10/4/2027

Cleveland Steel Container Corporation
Performance Oriented Package Testing Certification

Test Report for Non-Bulk Steel Packaging in accordance with the UN Recommendations on the Transport of Dangerous Goods, IMDG Code, ICAO Technical Instructions, IATA Dangerous Goods Regulations and the U.S. Code of Federal Regulations (CFR) Title 49, Part 178.

Test Facility: Cleveland Steel Container Corporation
412 Mason Street
Niles, Ohio 44446
330-544-2271

Periodic Retest

5.0 Gallon Closed-head Straight-sided (Tighthead) Steel Drum

Packagings which differ from the above described design type only in their lesser design height are covered under this testing certification, in accordance with 49 Code of Federal Regulations, Part 178, Subpart M, Section 178.601(c)(4)(v).

Therefore, the tested 5.0 Gallon design referenced above covers designs of lesser height and rated capacity.

ⓤn 1A1/Y1.8/100/26/USA/M****

The samples subjected to the performance testing in this report were closed in accordance with the UN Closing Instruction Manual available online at www.cscpails.com using the following document(s):

QA-FM-L252

The following Cleveland Steel Container Manufacturing Locations are registered with the United States Department of Transportation, and are eligible to appear in the above UN marking sequence in place of M**

M4369 - Cleveland Steel Container Corporation, Peotone, Illinois

M4460 - Cleveland Steel Container Corporation, Niles, Ohio

M4461 - Cleveland Steel Container Corporation, Quakertown, Pennsylvania

M5845 - Cleveland Steel Container Corporation, Kilgore, Texas

Testing Representative's Signature _____ **Date** 10/4/2026

Testing Representative's Title U.N. Technician

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Container (Drum) Description:

Manufactured by: Cleveland Steel Container Corporation, Niles, Ohio

Manufacturing Method: Triple Seam (3 folds on bottom circumferential seam or chime). Electric lap-welded side seam.

Drum Type: Closed-head Straight-sided (Tighthead) Steel Drum

Bead: No beads

Height of Pail: 13.437 Inches

Package Tare Weight: 4.50 lbs.

Maximum Capacity: 5.25 gal.

Gauge (Body): 24

Gauge (Bottom): 24

Minimum Wall Thickness: 0.019 inches

Minimum Bottom Thickness: 0.019 inches

Inside Diameter at Top: 10.5 inches

Inside Diameter at Bottom: 11.25 inches

Top End Description:

Manufactured by: Cleveland Steel Container Corporation, Streetsboro, Ohio

Material: Steel

Gauge (Top/Cover): 24

Minimum Thickness: 0.019 inches

Gasket Material: Water-based sealant

Fitting Description

Fitting Manufacturer: Ball Corporation

Fitting Type: 2-1/8" ScrewCap(Cvr) w/ tamper-evident innerseal

Fitting Material: Tin-plated Steel

Fitting Weight: 0.10 lbs.

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DROP TEST SPECIFICATIONS AND RESULTS (49 CFR - §178.603)

Sample Size: 3 Samples/Orientation (6 Samples Total) **Filling Substance:** Water filled to 98% maximum capacity

Packing Group: Y **Specific Gravity:** 1.8 **Drop Height:** 71 Inches **Drop Weight:** 47.4 lbs.

***** See Appendix A - Test Calculations for Weight of Test Package and Drop Test Height**

Center of Gravity on Top Chime (Circumferential Seam) w/ fitting directly over impact at 6 o'clock		
Sample #	**Result**	**Comment**
1	Pass	No Leak
2	Pass	No Leak
3	Pass	No Leak

Center of Gravity on Bottom Chime (Circumferential Seam) at Side Seam		
Sample #	**Result**	**Comment**
4	Pass	No Leak
5	Pass	No Leak
6	Pass	No Leak

Criteria for Passing the Test:

A container is considered to successfully pass the drop test if for each sample tested, the container does not leak when equilibrium has been reached between internal and external pressures.

LEAKPROOFNESS TEST SPECIFICATIONS AND RESULTS (49 CFR - §178.604)

Sample Size: 3 Samples **Filling Substance:** Air **Test Pressure:** 20 kPa **Test Duration:** 5 Minutes

Sample #	Result	Comment
7	Pass	No Leak
8	Pass	No Leak
9	Pass	No Leak

Criteria for Passing the Test:

A container successfully passes the Leakproofness test if for each sample tested, there is no leakage of air from the container.

HYDROSTATIC PRESSURE TEST SPECIFICATIONS AND RESULTS (49 CFR - §178.605)

Sample Size: 3 Samples **Filling Substance:** Water **Test Pressure:** 100 kPa **Test Duration:** 5 Minutes

Sample #	Result	Comment
10	Pass	No Leak
11	Pass	No Leak
12	Pass	No Leak

Criteria for Passing the Test:

A container successfully passes the Hydrostatic Pressure test if for each sample tested, there is no leakage of liquid from the container.

CSC Design Number: T-068-2026
Date Certified: 10/4/2026
Valid Until: 10/4/2027

STACK TEST SPECIFICATIONS AND RESULTS (49 CFR - §178.606)

***** See Appendix A - Test Calculations for Stack Test Weight**

SAMPLE SIZE: 3 Samples

TEST METHOD: Dynamic Compression

FILLING SUBSTANCE: None (Empty)

Load (A) = (n - 1) * [w + (s * v * 8.34 * 0.98)] * 1.5

Where:

A = applied load in pounds.

n = minimum number of containers required to reach 3 meters (118.11 inches).

s = specific gravity of lading.

w = maximum weight of one empty container in pounds.

v = actual capacity of container (rated capacity + outage) in gallons.

And:

8.34 corresponds to the weight in pounds of 1.0 gallons of water.

0.98 corresponds to the maximum filling percentage of the maximum capacity for liquids.

1.5 is a compensation factor that converts the static load of the stacking test into a load suitable for dynamic compression.

Height of Container = 13.43 Inches

Number of containers(n), reaching 118.11 inches in height = 118.11 Inches / 13.437 Inches = **9** containers

Calculated Gross Weight of Each Test Package 42.9 lbs. **X** 1.8 + 4.50 lbs. = **81.72** lbs.

Load (A) = (9 - 1) * [4.50 + (1.8 * 5.25 * 8.34 * 0.98)] = 653.76 lbs. X 1.5 = **981** lbs.

Sample #	Result	Comment
13	Pass	No Deformation
14	Pass	No Deformation
15	Pass	No Deformation

Criteria for Passing the Test:

A container successfully passes the Stacking test if for each sample tested, there is no deformation and there is no deterioration that could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages.

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Appendix A - Test Calculations

Weight of Test Package

Tare Weight of Empty Drum and Cover w/ closures (w): 4.50 lbs.

Maximum or Actual Capacity of Container (rated capacity + outage) (v): 5.25 Gallons

Maximum Liquid Fill Weight: 43.8 lbs.

98% of Maximum Liquid Fill Weight: 0.98 X 43.8 lbs. = 42.9 lbs.

Weight of filled Test Package: 4.50 lbs. + 42.9 lbs. = **47.4** lbs.

Drop Test Height

Specific Gravity of Certification: **1.8**

Packing Group of Certification: **Y**

For Packing Group Y [(Specific Gravity) 1.8 X 39.37 Inches] = **71** Inches

Stack Test Weight

Load (A) = (n - 1) * [w + (s * v * 8.34 * 0.98)] * 1.5

Where:

A = applied load in pounds.

n = minimum number of containers required to reach 3 meters (118.11 inches).

s = specific gravity of lading.

w = maximum weight of one empty container in pounds.

v = actual capacity of container (rated capacity + outage) in gallons.

And:

8.34 corresponds to the weight in pounds of 1.0 gallons of water.

0.98 corresponds to the maximum filling percentage of the maximum capacity for liquids.

1.5 is a compensation factor that converts the static load of the stacking test into a load suitable for dynamic compression testing.

Stack Test Calculation for Dynamic Compression Testing Method:

Height of Container = 13.437 Inches

Number of containers(n), reaching 118.11 inches in height = 118.11 Inches / 13.437 Inches = **9** containers

Load (A) = (9 - 1) * [4.50 + (1.8 * 5.25 * 8.34 * 0.98)] = 653.76 lbs. X 1.5 = **981** lbs.