LISTING INFORMATION OF

Arctic Industries Walk-in Cooler and Freezer Wall and Ceiling Panels

SPEC ID: 80303

Arctic Industries, LLC
9731 NW 114 WAY
Miami, FL 33178
United States

LISTING INFORMATION

ARCTIC INDUSTRIES walk-in cooler and freezer Wall and Ceiling panels

Product Description:
The Arctic Industries wall and ceiling panels are used for coolers and freezers for indoor and outdoor use in accordance with the 2023 Los Angeles Building Code.

The panels consist of urethane frames with facers of either min. No. 26 gage steel, min. 0.032-in. aluminum or min. No. 26 gage stainless steel, and a core of urethane foam plastic having a nominal density of 2.25 pcf. The panels utilize cam-lock devices to connect them together.

Code Compliance Research Report:

Evaluation Method	Building Codes	Report No.
ASTM E72 ASTM E84	2023 LABC	LCR-80303

Attribute	Value
Code Reports	Yes
Code Reports	LCR
Criteria	LABC
CSI Code	07 42 13 Metal Wall Panels
CSI Code	07 41 13 Metal Roof Panels
Listing Section	WALL ASSEMBLIES
Spec ID	80303

Los Angeles Building Code Evaluation Report
LCR-80303

Issue Date: 09-16-2024
Renewal Date: 09-30-2025

DIVISION: 07 – THERMAL AND MOISTURE PROTECTION
Section: 07 42 13 Metal Wall Panels
07 41 13 Metal Roof Panels

REPORT HOLDER:
Arctic Industries, LLC
9731 NW 114th Way
Miami, FL 33178
www.arcticwalkins.com

REPORT SUBJECT: ARCTIC INDUSTRIES WALK-IN COOLER AND FREEZER WALL AND CEILING PANELS

1.0 SCOPE OF EVALUATION

This Building Code Evaluation Report addresses compliance with the 2023 City of Los Angeles Building Code. See Table 1 for Properties Evaluated.

NOTE: This report references the most recent code editions noted. Section numbers in earlier editions may differ.

2.0 STATEMENT OF COMPLIANCE

The Arctic Industries wall and ceiling panels have been evaluated for compliance with the codes listed in Section 1.0, subject to the conditions of use stated in Section 6.0.

The wall and ceiling panels are under a follow-up services inspection program for verification of continued compliance in accordance with LABC Section 1703.1.

3.0 DESCRIPTION

The Arctic Industries wall and ceiling panels are used for coolers and freezers for indoor and outdoor use in accordance with the 2023 Los Angeles Building Code.

The panels consist of urethane frames with facers of either min. No. 26 gage steel, min. 0.032-in. aluminum or min. No. 26 gage stainless steel, and a core of urethane foam plastic having a nominal density of 2.25 pcf. The panels utilize cam-lock devices to connect them together.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Structural: See Tables 2 and 3 for panel spans, Table 4 for allowable axial loads, Table 5 for allowable shear loads and Table 6 for allowable cam-lock connection strength.

4.2 Flame Spread Characteristics: The foam core has a flame spread index of 25 or less and a smoke-developed index of 450 or less, based on testing in accordance with ASTM E84.

5.0 INSTALLATION

5.1 The Arctic Industries wall and ceiling panels must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Evaluation Report.

A thermal barrier is not required when installed in compliance with LABC Sections 2603.4.1.2, 2603.4.1.3, 2603.4.1.4 or 2603.4.1.5, as applicable.

6.0 CONDITIONS OF USE

The panels are recognized as structural wall and ceiling panels for use in interior and exterior non-fire-rated walk-in cooler and freezers as loadbearing walls, roof panels, shear walls and diaphragms, subject to the following conditions:

1. Complete plans and design calculations bearing the signature of a civil or structural engineer or architect registered in the State of California shall be submitted to the structural plan check for their approval for each job. Wall panels shall be connected to the supporting structure with fasteners complying with the building code or other approved Research Report and shall be detailed on the approved plans.

2. Design of a building utilizing the panels shall be in accordance with the requirements of the 2023 Los Angeles Building Code.

3. The panels shall be used only in areas where combustible materials are permitted by the code.

4. An approved fire-retardant roof covering shall be placed over the panels when used as an exterior roof panel.

5. A separate approval shall be required for electrical installations within the panels.

6. General approval of an equivalent alternate to the Code is only valid where an engineer or inspector of the City of Los Angeles has determined that all conditions of this Approval have been met in the project in which it is to be used.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests demonstrating compliance with ASTM E72 and ASTM E84.

7.2 Engineering calculations and span charts, Tamarack Grove Engineering, Project 23-21003, dated Mar 9, 2023.

7.3 Intertek Listing Report for "Arctic Industries Walk-in Cooler and Freezer Wall and Ceiling Panels" at www.bpdirectory.intertek.com (reference Spec ID 55264).

7.4 Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The wall and ceiling panels are identified with the following:

- Name of the report holder
- Product name
- Serial number
- Production bar code
- Intertek Mark as shown below
- Intertek Control No. 9900171
- Building Code evaluation report number, LCR-80303

9.0 BUILDING CODE EVALUATION REPORT USE

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Building Code Evaluation Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3 Reference to https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2023 LABC SECTION
Structural	Chapter 16
Weather resistance	Chapter 14
Surface burning characteristics	2603.3
Thermal barrier requirements	2603.4

TABLE 2 – CEILING / ROOF PANEL SPANS

CEILING/ROOF PANEL SPANS												
Panel Thickness	Dead Load (psf)	LIVE LOADS (PSF)										
		INDOOR		OUTDOOR (includes 2 PSF for membrane roof)								
		10	20	20	30	40	50	60	70	80	90	100
4"	3.5	15'-9"	12'-0"	11'-7"	9'-11"	8'-10"	8'-1"	7'-7"	7'-1"	6'-9"	6'-5"	6'-1"
4" *	4.3	27'-8"	19'-5"	14'-6"	9'-11"	-	-	-	-	-	-	-
5-3/8"	4.0	16'-8"	12'-9"	12'-3"	10'-6"	9'-5"	8'-8"	8'-0"	7'-7"	7'-2"	6'-10"	6'-7"
5-3/8" *	4.9	28'-9"	22'-7"	19'-7"	16'-2"	13'-8"	11'-8"	10'-0"	8'-7"	-	-	-
5-3/8" **	5.1	28'-10"	23'-2"	21'-7"	17'-9"	15'-0"	12'-11"	11'-1"	9'-7"	8'-3"	-	-

Table Notes:

* Panel to be reinforced with (3) 2 1/2"x1 5/8"x1/2"x16 GA steel channels, top skin to be 20 GA.

** Panel to be reinforced with (3) 4"x2"x1/2"x16 GA steel channels, top skin to be 20 GA.

The maximum panel length is 25'-0" per manufacturer limitations.

TABLE 3 – WALL PANEL SPANS

WALL PANEL SPANS[1,4]											
Panel Thickness	Dead Load (psf)	LOADS (PSF)[2]									
		INDOOR defl L/180	OUTDOOR (deflection L/180)								
		5	**10.3**	**12.7**	**15.4**	**18.4**	**21.5**	**25**	**28.7**	**32.6**	**41.3**
			WIND SPEED (MPH)								
			90	*100*	*110*	*120*	*130*	*140*	*150*	*160*	*180*
4"	3.5	20'-0" [3]	15'-9"	14'-3"	13'-0"	12'-0"	11'-3"	10'-6"	9'-10"	9'-3"	8'-4"
5-3/8"	4.0	20'-0" [3]	17'-0"	15'-3"	14'-0"	12'-9"	12'-0"	11'-2"	10'-6"	9'-11"	9'-0"

Table Footnotes: 1) Provide Unity Check for Axial Load in design.

$$R_{unity} = \frac{Axial_{actual}}{Axial_{allow}} + \frac{Transverse_{actual}}{Transverse_{allow}}$$

2) ASCE 7-16, Exp. C, ≤ 15 ft

3) Maximum span based on testing limitation

4) Includes 150 plf maximum axial load from ceiling/roof panels

TABLE 4 – WALL PANEL AXIAL LOADING

Panel Height (ft)	Allowable Axial Load (plf)[1]
8	796
10	763
12	730
14	697
16	664
18	632
20	599

Table Footnotes: 1) Provide Unity Check for Axial and Transverse Load.

$$R_{unity} = \frac{Axial_{actual}}{Axial_{allow}} + \frac{Transverse_{actual}}{Transverse_{allow}}$$

TABLE 5 – WALL PANEL / CEILING DIAPHRAGM RACKING SHEAR LOADING

Height to Width Ratio	Allowable Shear Load (plf)
0.5 to 1	130
1 to 1	117
1.5 to 1.0	105
2.0 to 1.0	94
3.0 to 1.0	75
4.0 to 1.0	61

TABLE 6 – CAM-LOCK FASTENER ALLOWABLE CONNECTION STRENGTH

Connection Type	Tensile (lb_f)	Shear (lb_f)
A single cam-lock for Wall-to-Wall, Ceiling-to-Ceiling, Floor-to-Floor, T-Wall Panel to Wall, Corner Panel to Wall connections	197	244
A single cam-lock for Ceiling to Wall panel connection	197	244
T-Wall Panel to Ceiling/Floor[2]	633	1,033
Corner Panel to Ceiling/Floor[3]	394	686

Table Footnotes: 1) The allowable values tabulated above were based on the average ultimate loads of minimum five tested connection assemblies per connection type and dividing by a safety factor of 3.

2) The T-Wall tensile and shear connection strength values are based on the three cam-locks as configured at the top or bottom.

3) The Corner panel tensile and shear strength values are based on the two cam-locks as configured at the top or bottom.