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RESEARCH REPORT: RR 24944
(CSI # 13030)

Expires: July 01, 2020
Issued Date: July 01, 2018
Code: 2017 LABC

GENERAL APPROVAL – Renewal/Clerical Modification - North Star Insulated Panels for Walk-In Coolers and Freezers.

DETAILS

Panels for the coolers and freezers are fabricated with 2" x 4" nominal wood studs with 24 gauge galvanized steel skins and a core of urethane foam insulation. Panels have tongue and groove edges and are held together by use of cam-locking devices.

The urethane foam is AUTOFROTH® 9300A ISOCYANATE and AUTOFORTH® 98B208 Resin foam insulation manufactured by the BASF Corporation and has a density of 2.0 pcf. case corporation and has a density of 2.0 pcf. The foam insulation, when tested alone, has a smoke density and flame spread rating of 400 and 25 respectively when tested in accordance with ASTM E84. The foam, when tested in accordance with ASTM D1929, has a self ignition temperature of 885°F, and a flash ignition temperature of 600°F. Smoke Density and Flame Spread Ratings of 4-inch panels with foam core and 24 gauge galvanized steel skins are 450 and 15 respectively.

The 24 gauge steel skins has a minimum yield strength of 35 ksi, a minimum ultimate strength of 45 ksi, an elongation in 2 inches between 23 and 37 percent, and a base metal hardness between 50 and 65 on the Rockwell B Scale.

The general approval of the panels is subject to the following:

1. The coolers and freezers shall be installed in the interior of the building only. No electrical, mechanical, or plumbing shall be allowed to be cut into panels once fabricated. Separate electrical approval is required from the Electrical Division for any fabricated systems.

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2. Use of the panels shall be limited to locations where combustible materials are permitted by the Code.
3. The panels shall be fabricated in the shop of a licensed fabricator approved by the Los Angeles City Building Department. Each panel shall be identified by the manufacturer.
4. Materials for the panel shall be as specified above. Test data by a Los Angeles City approved testing agency shall be submitted upon request.
5. Complete plans and design calculations bearing the signature of a civil or structural engineer registered in California shall be submitted for each job.

EXCEPTION: Plans and design calculations are not required if the cooler or freezer floor area is less than 400 square feet.

6. The foam plastic shall be protected from the interior of the room in which it is placed by use of ½-inch-thick gypsum wallboard, or other materials approved as a thermal barrier when tested as specified in Section 2603.4 of the 2014 Los Angeles Building Code.

EXCEPTION: The thermal barrier is not required if (1) the cooler or freezer floor area is less than 400 square feet, or (2) if the cooler or freezer floor area is 400 square feet or greater, and the part of the building in which the cooler or freezer is located and the inside of the cooler or freezer are fire-sprinkled.

7. Design of a building or structure utilizing the panels shall be in accordance with the Code and the data included below:

- a. Panel use limitations:

Maximum Height for Shear and Bearing Walls.	14 ft.
Maximum Horizontal Span for Ceiling Loading	12 ft.
- b. Loading:

Maximum Uniform Loading	17 psf
Maximum Concentric Axial Loading	450 lb/lineal ft.
Maximum Diaphragm Shear	65 lb/ft.
Maximum Racking Shear (Shear wall) for maximum height/width ratio of 1.75:1	165 lb/ft.
- c. Weight of Panels 3.5 psf
- d. Loading on Kason Model 1156 B Panel Fasteners with 1155 Strike Assemblies:

Tension Parallel to Panel Face	480 lb
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(Note: No shear value is approved for these connectors)
- e. No stress increase is allowed for the values indicated above.

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- f. The kason fasteners shall be spaced 28½" o.c. maximum.
- g. All design values and methods not included in this report shall be in accordance with the code.

DISCUSSION

Clerical Modification is to update the report to the 2017 Los Angeles City Building Code.

The report is in compliance with 2017 Los Angeles Building Code.

The approval is based on tests.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors. The report is in compliance with 2008 Los Angeles Building Code.

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