Number:

278

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## EVALUATION SUBJECT: ALUR DIVIDING WALL

**REPORT HOLDER:** 

Modular Architectural Interiors LLC dba MAI

330 Waterloo Valley Road Mount Olive, NJ 07828 Phone: (973) 446-2300 Fax: (973) 446-2399

www.maispace.com www.alurwalls.com

DIVISION: 10— SPECIALTIES

**SECTION: 10615—Demountable Partitions** 

### 1.0 SCOPE OF EVALUATION

### 1.1 Compliance to the Following Codes & Regulations:

- 2012 International Building Code® (IBC)
- 2009 International Building Code® (IBC)
- 2006 International Building Code® (IBC)

### 1.2 Evaluated in Accordance With:

• IBC Chapters 8 and 16

### 1.3 Properties Evaluated:

- Structural
- Interior Wall Finish

### 2.0 PRODUCT USES

The ALUR Dividing Wall System is a relocatable, floor-to-ceiling, nonload-bearing, interior wall partition system complying with IBC Sections 803, 1607, and 1613. The system consists of thermofused laminate, fabric, marker board or tackable board wall tiles on aluminum tracks and posts designed to interface and connect with one another or with existing building walls. The system may be used in any Occupancy, including Occupancy Category IV for Essential Facilities, and in Seismic Design Categories A to F.

### 3.0 PRODUCT DESCRIPTION

### 3.1 Product Information

**3.1.1** The wall system consists of thermofused laminate, fabric, marker board or tackable board wall tiles and extruded aluminum tracks and posts (Figure 1 of this report). The wall tiles may be arranged in a horizontal or vertical orientation (Figures 2 and 3 of this report). When the wall system is installed in accordance with this report and the manufacturer's published instructions, the wall system resists the greater of the 5 psf transverse design load specified in IBC Section 1607.13, where  $I_p$  or  $I_e$ =1.00 in Seismic Design Categories A and B; or the seismic design forces for nonstructural components in accordance with IBC Section 1613.1 in Seismic

Design Categories A and B, where  $I_p$  or  $I_c>1.00$ , and in Seismic Design Categories C to F where  $I_p$  or  $I_c$  is 1.00 to 1.50.

### 3.2 Material Information

**3.2.1 Tiles:** 5/8 inch thick Thermofused Melamine on particleboard substrate by Flakeboard, fabric, marker boards are in 24, 48, 96 and 120 inches in width and 26-7/8, 36, 41-1/8, 48 and 120 inches in height (Figure 6 of this report). The tile finishes comply as Class B interior wall finishes in accordance with IBC Section 803.1.1. Fabric finishes comply as Class A interior finish.

# **3.2.2** Aluminum Tracks, Posts and Horizontal Members: Extruded from 6063-T52 aluminum alloy with minimum yield strength of 16,000 psi (110 MPa). Dimensional information is available from manufacturer upon request.

- **3.2.3 Fasteners:** Bolts connecting aluminum members shall be stainless, hot-dipped galvanized or electro-galvanized steel.
- **3.2.4 Gaskets:** Innoprene, CAS No. 9003.07.0 and 9010.79.1
- **3.2.5 Shims:** Acrylic shims are available for leveling bottom frame.
- **3.2.6 Floor Anchors:** The 3/8 inch diameter Hilti Carbon Steel Kwik Bolt TZ (KB-TZ) with washer and hex nut shall be installed in accordance with Hilti's installation instructions and ICC ESR-1917. Minimum drilled hole depth shall be 2-5/8 inches and minimum effective embedment depth shall be 2 inches. Anchors shall be spaced 4 feet maximum. Floor anchors may be installed into normal-weight or sand lightweight concrete having a specified compressive strength, f'c, of 2,500 psi to 8,500 psi in accordance with ESR-1917, Section 5.0, Conditions of Use and Figure 5 of this report.
- **3.2.7 Wall Bracing:** Top track bracing from ALUR Wall Y-bracket to structural level above shall be Option 1 or Option 2:

**Option 1:** 350S162-33 (1-5/8"x3-1/2", No. 20 gage) steel stud braces each side of panel, spaced 4 feet maximum, at 1:1 angle (Figure 4 of this report).

**Option 2:** No. 12 gage steel wires each side of panel, spaced 4 feet maximum, at 1:1 angle, with 350S162-33 (1-5/8"x3-1/2", No. 20 gage) steel stud vertical compression strut, spaced 12 feet maximum.

### 4.0 DESIGN AND INSTALLATION

**4.1 Installation:** Installation of ALUR Dividing Wall System shall be in accordance with manufacturer's installation guide.

### 4.2 Special Inspection





The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provisions of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safely, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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**4.2.1 Seismic Design Categories D, E, and F:** Periodic special inspection shall be provided in accordance with IBC Section 1705.11.5. Special inspection for walls without storage bins may be waived as set forth in IBC Section 1705.11.5 Exception 3 for walls configured as set forth in Section 5.4 of this report.

**4.2.2 Floor Anchors:** Special inspection for the Hilti KB-TZ floor anchors shall comply with ICC ESR-1917.

### **5.0 LIMITATIONS**

The ALUR Diving Wall System described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following limitations:

- **5.1** The system shall be manufactured, identified, and installed in accordance with this report and the manufacturer's published installation instructions. Where differences exist between this evaluation report and the manufacturer's published installation instructions, the more restrictive shall govern.
- **5.2** The maximum partition height is 10 feet (3048 mm).
- **5.3** Panel installation is limited to interior nonload-bearing applications.
- 5.4 The panels may be used to support furniture loads, such as over-head bins and work surfaces. In office and commercial buildings ( $I_P$ = 1.0), the panels may support two over-head bins and a work surface where the maximum mapped short period spectral acceleration, S<sub>S</sub>, is 1.75, a single over-head bin and a work surface where the maximum S<sub>S</sub> is 2.27 or less and a work surface only where the maximum S<sub>S</sub> is 3.0 or less. In Occupancy Category IV, Essential Facilities (I<sub>P</sub> = 1.5), the maximum S<sub>S</sub> mapped short period spectral acceleration is 2.3 for partition heights of 10 feet without bins or work surfaces; the panels may support two over-head bins and a work surface where the maximum S<sub>S</sub> is 1.16 or less, a single over-head bin and a work surface where the maximum S<sub>S</sub> is 1.51 or less and a work surface only where the maximum S<sub>S</sub> is 2.0 or less. The above-mentioned values correspond to partitions with heights of 10 feet. The maximum S<sub>S</sub> limitations may be increased as justified by a design professional with project specific calculations and approved by the code official. The USGS "U.S. Seismic Design Maps Web Application" may be utilized to determine the maximum S<sub>S</sub> mapped short period spectral acceleration for a given project latitude and longitude: http://earthquake.usgs.gov/designmaps/us/application.php.
- **5.5** Lateral bracing of the ALUR Diving Wall System ceiling track shall be independent of the lateral bracing support of the building's ceiling grid, and shall conform to the requirements of this report, unless otherwise justified by a design professional and approved by the code official.

- **5.6** Anchorage of the ALUR Diving Wall System floor track shall conform to the requirements of this report, unless otherwise justified by a design professional and approved by the code official.
- **5.7** In Seismic Design Categories A and B, the minimum panel width shall be 6 inches wide with one floor anchor. In Seismic Design Categories C to F, the minimum panel width shall be 14 inches wide with a minimum of two floor anchors, except in cases where the supporting floor slab consists of 4 inches minimum normal-weight concrete, in which case the minimum panel width may be 6 inches wide with one anchor.

### **6.0 EVIDENCE SUBMITTED**

6.1 Substantiating Data: Structural calculations

**6.2 Test reports:** Interior wall finish tests

### 7.0 IDENTIFICATION

**7.1** Identification of the system components shall be affixed on the packaging of the individual components, labeled "ALUR". The label shall include the company name or trademark, model number, and the IAPMO Uniform ES Mark of Conformity, the name of the inspection agency (when applicable) and the Evaluation Report Number (ER-278) to identify the products recognized in this report. Either Mark of Conformity may be used as shown below:





**IAPMO ER #278** 

Brian Gerber, P.E., S.E. Vice President, Technical Operations Uniform Evaluation Service

Richard Beck, PE, CBO, MCP Vice President, Uniform Evaluation Service

> GP Russ Chaney CEO, The IAPMO Group

For additional information about this evaluation report please visit www.uniform-es.org or email at info@uniform-es.org

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### Frame Structure

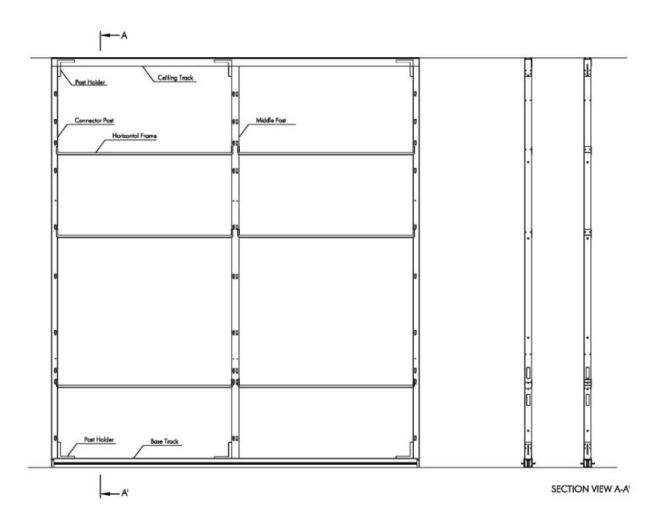


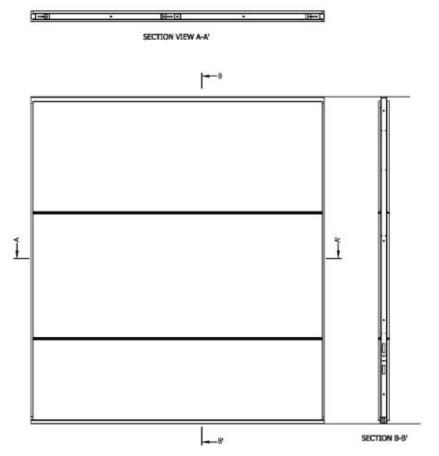
FIGURE 1 – TYPICAL FRAME STRUCTURE

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Panel Option, Horizontal



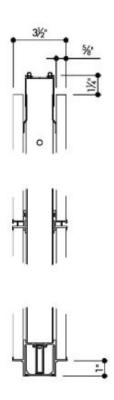
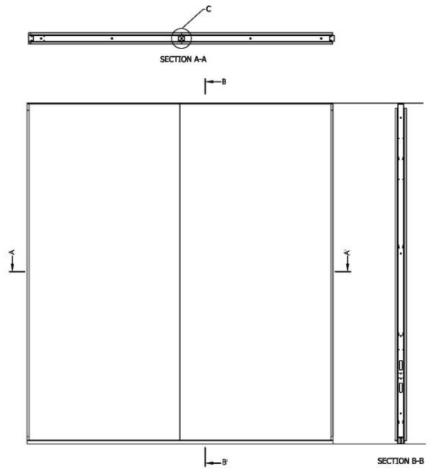


FIGURE 2 – TYPICAL HORIZONTAL TILE LAYOUT

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## Panel Option, Vertical



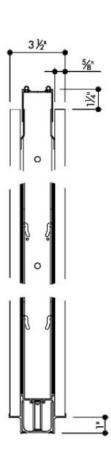
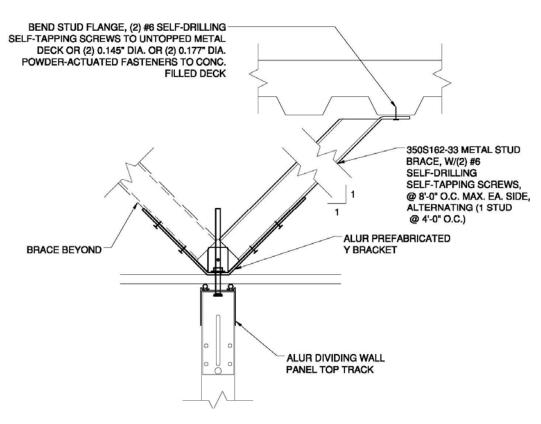


FIGURE 3 – TYPICAL VERTICAL TILE LAYOUT

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### FIGURE 4 - TOP TRACK BRACING

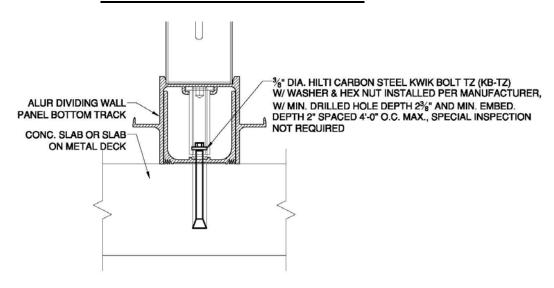
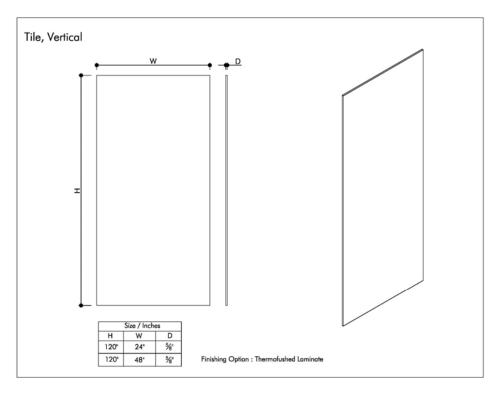
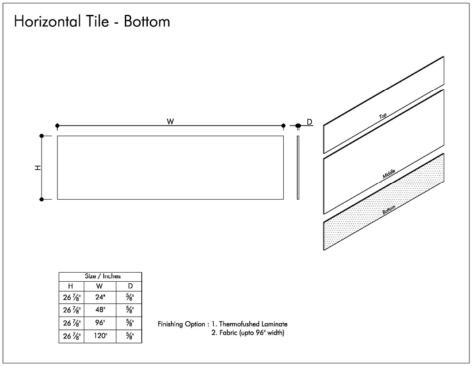


FIGURE 5 - BOTTOM TRACK ANCHORAGE

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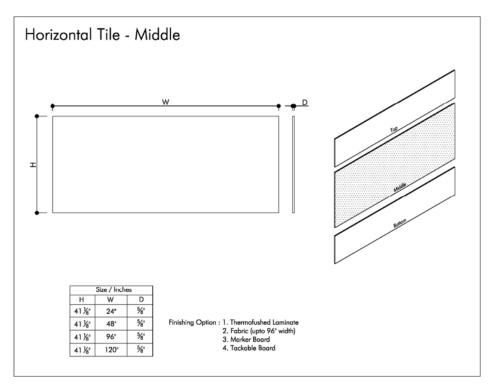


**FIGURE 6 – WALL TILE OPTIONS** 

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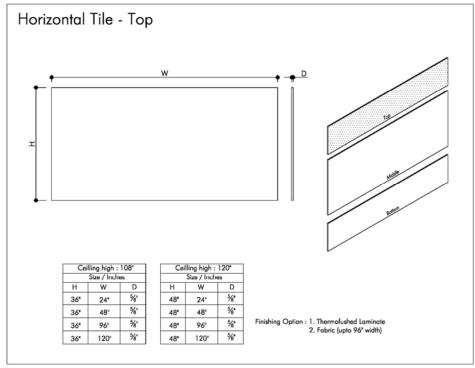


FIGURE 6 (Cont.) - WALL TILE OPTIONS