FREEAXEZ, LLC  
1805 Underwood Boulevard  
Delran, New Jersey 08075  
(856) 764-0400  
www.freeaxez.com

FREEAXEZ GRIDD® ADAPTIVE CABLE DISTRIBUTION SYSTEMS

CSI Section:  
09 69 33 – Low Profile Fixed Height Access Flooring

1.0 RECOGNITION

The FreeAxez Gridd® cabling distribution systems recognized in this report have been evaluated for use as an interior, adaptive, cabling distribution and management floor system. The structural performance and fire-resistance properties of the Gridd® system comply with the intent of the provisions of the following codes and regulations:

- 2013 Abu Dhabi International Building Code (ADIBC) – attached supplement
- 2023 City of Los Angeles Building Code (LABC) – attached supplement
- 2022 California Building Code (CBC) – attached supplement

2.0 LIMITATIONS

Use of the FreeAxez Gridd® cabling distribution system recognized in this report is subject to the following limitations:

2.1 The FreeAxez Gridd® cabling distribution systems shall be installed in accordance with the applicable code, the manufacturer’s published installation instructions, and this report. Where a conflict occurs, the more restrictive requirements shall govern.

2.2 Gridd® systems shall be for indoor use only, protected by the weather-resistant exterior wall envelope complying with Chapter 14 of the IBC

2.3 Wiring and cabling are beyond the scope of this review. The wiring and cabling and the installation shall comply with the requirements of the National Electrical Code (NFPA 70), including Article 645.5 (e).

2.4 Gridd® systems shall not be used as part of the grounding system.

2.5 All load-carrying units and other heavy equipment shall be anchored to the existing structure as required for seismic resistance.

2.6 Project-specific Gridd installation/layout drawings are provided by the manufacturer on each job to accommodate site specific border conditions and transitions and to plan/organize the cable pathways/power distribution systems only. Documentation shall be provided by others to the building official to show that the existing structure is capable of supporting the additional loading provided by the Gridd® system. Any project specific engineering or documentation shall be provided by others to the building official.

2.7 For Types I and II construction, the area below the Gridd® system shall be limited to uses as noted in Section 718.5 of the IBC.

2.8 Required fire-resistance-rated walls shall extend through the Gridd® system to the fire resistance-rated floor/ceiling assembly below. Penetrations through the walls above and below the fixed-height, low-profile raised floor system shall be protected by an approved firestop system.

2.9 The area below the Gridd® system shall not be used as a plenum.

2.10 The floor covering is beyond the scope of this report. The floor covering shall comply with the requirements of Section 804 of the IBC.

2.11 The cabling distribution systems recognized in this report are produced by FreeAxez in Attleboro, Massachusetts.

3.0 PRODUCT USE

3.1 General: Gridd® is designed to create a low-profile floor which provides underfloor, adaptive cabling distribution and management that is concealed, modular, accessible and gravity held.

3.2 Design:

3.2.1 Noncombustibility: The system is noncombustible and applicable to Types I, Type II, Type III, Type IV, and Type V construction.

3.2.2 Design Uniform and Concentrated Loading: The Gridd® systems have a maximum dead load of 5 psf (240 Pa) for the Standard and Reinforced Gridd systems and 7 psf (335 Pa) for the Reinforced Base Unit and High-density Base Unit. The allowable concentrated and uniform live loads are shown in Tables 3 and 4 of this report.

3.2.3 Allowable Seismic Load: The seismic design shall comply with Chapter 13 of ASCE 7 and Tables 5 and 6 of this report. Loading was determined based on seismic shake table testing. The structural functionality of the Gridd®
4.0 PRODUCT DESCRIPTION

4.1 General: The FreeAxez Gridd® system is available in eight types of systems: Gridd® 40 Standard, Gridd® 40 Reinforced, Gridd® 70 Standard, and Gridd® 70 reinforced. In addition, both the Gridd 40 reinforced and Gridd 70 reinforced are available with either Reinforced Base Unit or High-Density Base Units.

4.2 Gridd® 40 Standard and Gridd® 40 Reinforced Systems: The Gridd® 40 Standard and Gridd® 40 Reinforced Systems are 1.57 inches (40 mm) in height. Gridd® 40 and Gridd® 40 Reinforced systems consist of the following parts and materials as shown in Table 1 and Figure 1 of this report.

### TABLE 1 – GRIDD 40 AND GRIDD 40 REINFORCED CORE PARTS

<table>
<thead>
<tr>
<th>Part Name</th>
<th>FreeAxez Part Number</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Unit</td>
<td>4001</td>
<td></td>
</tr>
<tr>
<td>Corner Plate</td>
<td>4002</td>
<td>(2)</td>
</tr>
<tr>
<td>Channel Plate</td>
<td>4003</td>
<td>(2)</td>
</tr>
<tr>
<td>Undersheet</td>
<td>4096</td>
<td>Sekisui Volara AF Sheet</td>
</tr>
<tr>
<td>Adhesive</td>
<td>4700</td>
<td>3M Synthetic Elastomer Adhesive</td>
</tr>
<tr>
<td>Reinforced Corner Plate</td>
<td>4002R40</td>
<td>(3)</td>
</tr>
<tr>
<td>Reinforced Channel</td>
<td>4003R40</td>
<td>(3)</td>
</tr>
</tbody>
</table>

1Available on Reinforced System Only
2Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses (1.1 and 1.5 mm)).
3The reinforced corner plate and channel are manufactured with Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses) and reinforced with 2011-T3 or 6061-T6 Aluminum legs.

4.3 Gridd® 70 Standard and Gridd® 70 Reinforced Systems: The Gridd® 70 Standard and Gridd® 70 Reinforced Systems are 2.52 inches (70 mm) in height. Gridd® 70 and Gridd® 70 Reinforced systems consist of the following parts and materials as shown in Table 2 and Figure 2 of this report.

<table>
<thead>
<tr>
<th>Part Name</th>
<th>FreeAxez Part Number</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Unit</td>
<td>7001</td>
<td></td>
</tr>
<tr>
<td>Corner Plate</td>
<td>4002</td>
<td>(2)</td>
</tr>
<tr>
<td>Channel Plate</td>
<td>4003</td>
<td>(2)</td>
</tr>
<tr>
<td>Undersheet</td>
<td>4096</td>
<td>Sekisui Volara AF Sheet</td>
</tr>
<tr>
<td>Adhesive</td>
<td>4700</td>
<td>3M Synthetic Elastomer Adhesive</td>
</tr>
<tr>
<td>Reinforced Corner Plate</td>
<td>4002R70</td>
<td>(3)</td>
</tr>
<tr>
<td>Reinforced Channel</td>
<td>4003R70</td>
<td>(3)</td>
</tr>
</tbody>
</table>

1Available on Reinforced System Only
2Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses (1.1 and 1.5 mm)).
3The reinforced corner plate and channel are manufactured with Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses) and reinforced with 2011-T3 or 6061-T6 Aluminum legs.

4.4 Gridd® 40 Reinforced with Reinforced Base Unit and Gridd® 40 Reinforced with High Density Base Unit Systems: The Gridd® 40 Reinforced with Reinforced Base Unit and Gridd® 40 Reinforced with High Density Base Unit systems are 1.57 inches (40 mm) in height. These systems are 1.57 inches (40 mm) in height. Gridd® 40 and
consist of the following parts and materials as shown in Table 3, and Figures 3 and 4 of this report.

| TABLE 3 – Gridd® 40 Reinforced with Reinforced Base Unit and Gridd® 40 Reinforced with High Density Base Unit CORE PARTS |
|---------------------------------|-----------------|-----------------|
| Part Name                       | FreeAxez Part Number | Material        |
| High Density Base Unit          | 4230             | (2)             |
| Reinforced Base Unit            | 4001R            | (2)             |
| Reinforced Corner Plate         | 4002R70          | (3)             |
| Reinforced Channel              | 4003R70          | (3)             |
| Undersheet                      | 4096             | Sekisui Volara AF Sheet |
| Adhesive                        | 4700             | 3M Synthetic Elastomer Adhesive |

1Available on Reinforced System Only
2Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses (1.1 and 1.5 mm)).
3The reinforced corner plate and channel are manufactured with Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses) and reinforced with 2011-T3 or 6061-T6 Aluminum legs.

4.5 Gridd® 70 Reinforced with Reinforced Base Unit and Gridd® 70 Reinforced with High Density Base Unit Systems: The Gridd® 70 Reinforced with Reinforced base Unit and Gridd® 70 Reinforced with High Density Base Unit systems are 2.52 inches (70 mm) in height. These systems consist of the following parts and materials as shown in Table 4, and Figures 3 and 5 of this report.

| TABLE 4 – Gridd® 70 Reinforced with Reinforced Base Unit and Gridd® 70 Reinforced with High Density Base Unit CORE PARTS |
|---------------------------------|-----------------|-----------------|
| Part Name                       | FreeAxez Part Number | Material        |
| High Density Base Unit          | 7230             | (2)             |
| Reinforced Base Unit            | 7001R            | (2)             |
| Reinforced Corner Plate         | 4002R70          | (3)             |
| Reinforced Channel              | 4003R70          | (3)             |
| Undersheet                      | 4096             | Sekisui Volara AF Sheet |
| Adhesive                        | 4700             | 3M Synthetic Elastomer Adhesive |

1Available on Reinforced System Only
2Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses (1.1 mm and 1.5 mm)).
3The reinforced corner plate and channel are manufactured with Grade 40 ASTM A653 Steel HD G40 Galvanized (0.045 and 0.06-inch thicknesses) and reinforced with 2011-T3 or 6061-T6 Aluminum legs.

4.6 Undersheet: Sekisui Volara AF Sheets or Vertece SG Type i-Cell (SG2W-080-42-900) Sheets are provided by FreeAxez to be used as the undersheet for installation of the FreeAxez Gridd® cabling distribution systems. The sheets provided are 1/8-inch thick (3.2 mm) and are available in 60-inch wide (1524 mm) rolls. When tested to ASTM E84, the sheets have a flame spread index of 5 or less and a smoke developed index of 75 or less.

4.7 Adhesive: The 3M Super 77 spray adhesive is provided by FreeAxez for use in attaching the undersheet to concrete. The adhesive is a high tack, high coverage, fast drying transparent adhesive. The product shall be stored in temperatures ranging from 60°F to 80°F (16°C to 27°C). The unopened containers have a shelf life of 15 months.

4.8 Curb (FA-0730 or FA-0430): The Aluminum curb is a hollow aluminum beam with a box cross section. The curb has preinstalled holes on the upper and lower surface to allow it to be anchored to the subfloor. The bottom hole accepts the anchor, and the upper hole is a pass through for the screw gun. The curb is the same height as the Gridd floor and is designed to lay into the cable pathways in place of the corner and channel plate. The curb is designed to be multifunctional. It can be used for local reinforcement or as a secure base to anchor partition walls etc. which may be used to subdivide a space built on Gridd flooring. While the curb fills the cable pathways it is placed within, it was designed to be field cut to allow cable paths to flow uninterrupted.

5.0 IDENTIFICATION

Gridd® 40 Standard, Gridd® 40 Reinforced, Gridd® 40 Reinforced with Reinforced Base Unit, Gridd® 40 Reinforced with High-density Base Unit, Gridd® 70 Standard, Gridd® 70 Reinforced, Gridd® 70 Reinforced with Reinforced Base Unit, and Gridd® 70 Reinforced with High-density Base Unit, are identified on the packaging, as shown in Figure 9 of this report, by the FreeAxez name and trademark, product name, part number, date of manufacture and evaluation report number (ER-518). Each Gridd® Base Unit, as shown in Figure 10 of this report, is stamped with the FreeAxez company name and the evaluation report number. The Identification of both the packaging and the base units may also include the IAPMO Uniform Evaluation Service Mark of Conformity.

Either IAPMO UES Mark of Conformity may also be used as shown below:

![IAPMO UES ER-518 Mark]
6.0 SUBSTANTIATING DATA

6.1 Data in accordance with ICC-ES Acceptance Criteria for Fixed-Height, Low-Profile, Raised Floor Systems, AC151.


6.3 Data from uniform load testing in accordance with CISCA-Recommended Test Procedures for Access Floors.

6.4 Testing in accordance with ASTM E84.

6.5 Test reports are from laboratories in compliance with ISO/IEC 17025.

6.6 Engineering report with recommendations for the seismic requirements.

6.7 Manufacturer’s quality documentation, descriptive literature and installation instructions.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on FreeAxez’s Gridd® cabling distribution systems to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.11 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

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

<table>
<thead>
<tr>
<th>TABLE 5 – GRIDD ALLOWABLE CONCENTRATED LIVE LOADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentrated Live Load</td>
</tr>
<tr>
<td>Load Rating</td>
</tr>
<tr>
<td>Contact Area</td>
</tr>
<tr>
<td>Deflection (inch)</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 ft = 0.3048 m, 1 lb = 0.00445 kN

<table>
<thead>
<tr>
<th>TABLE 6 – GRIDD ALLOWABLE UNIFORM LIVE LOADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniform Live Load Rating</td>
</tr>
<tr>
<td>Uniform Live Load Rating</td>
</tr>
<tr>
<td>Maximum Deflection (inch)</td>
</tr>
</tbody>
</table>
TABLE 7 – GRIDD SEISMIC DESIGN CRITERIA

<table>
<thead>
<tr>
<th>Gridd System</th>
<th>Gridd 40 or Gridd 70</th>
<th>Gridd 40 Reinforced or Gridd 70 Reinforced</th>
<th>Gridd 40 Reinforced or Gridd 70 Reinforced with Reinforced BU</th>
<th>Gridd 40 Reinforced or Gridd 70 Reinforced with HD BU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design spectral response acceleration at short periods (S_DS)</td>
<td>2.0 g</td>
<td>2.0 g</td>
<td>2.0 g</td>
<td>2.0 g</td>
</tr>
<tr>
<td>Maximum Considered Earthquake Response at Short Periods (S_s)</td>
<td>3.0 g</td>
<td>3.0 g</td>
<td>3.0 g</td>
<td>3.0 g</td>
</tr>
<tr>
<td>Ratio of Mounting Height to Roof Height (z/h)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Importance Factor (I_P)</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

1 Mapped spectral accelerations for short periods are determined in Section 1613.2.1 of the 2021 and 2018 IBC, and Section 1613.3.1 of the 2015 and 2012 IBC and 1613.5.1 of the 2009 IBC, as applicable.

TABLE 8 – GRIDD SEISMIC PARAMETERS

<table>
<thead>
<tr>
<th>Gridd System</th>
<th>Gridd 40 or Gridd 70</th>
<th>Gridd 40 Reinforced or Gridd 70 Reinforced</th>
<th>Gridd 40 or Gridd 70 Reinforced with Reinforced BU</th>
<th>Gridd 40 Reinforced or Gridd 70 Reinforced with HD BU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seismic Design Category</td>
<td>A, B, C, D, E, F</td>
<td>A, B, C, D, E, F</td>
<td>A, B, C, D, E, F</td>
<td>A, B, C, D, E, F</td>
</tr>
<tr>
<td>Site Classification</td>
<td>A, B, C, D</td>
<td>A, B, C, D</td>
<td>A, B, C, D</td>
<td>A, B, C, D</td>
</tr>
</tbody>
</table>

1 Qualified for any height within the structure based on seismic shake table testing (z/h=1) in accordance with AC156.
2 Qualified for Importance Factor (I_P) = 1.5 based on seismic shake table testing in accordance with AC156.
3 Seismic Design Category is determined from Section 1613.2.5 of the 2021 and 2018 IBC, and Section 1613.3.5 of the 2015 and 2012 IBC, and 1613.5.6 of the 2009 IBC, as applicable.

FIGURE 1—GRIDD® 40 CORE COMPONENTS
FIGURE 2—GRIDD® 70 CORE COMPONENTS

FIGURE 3—HIGH DENSITY BASE UNIT OVERVIEW
FIGURE 4 – GRIDD 40 HIGH DENSITY BASE UNIT AND REINFORCED BASE UNIT
FIGURE 5 – GRIDD 70 HIGH DENSITY BASE UNIT AND REINFORCED BASE UNIT

FIGURE 6 – Gridd 40 Curb
FIGURE 7 – Gridd 70 Curb

FIGURE 8 – GRIDD INSTALLATION

(Repeating pattern of 3 primary components)
FIGURE 9 – GRIDD PACKAGING LABEL

FIGURE 10 – GRIDD BASE UNIT STAMP
CITY OF LOS ANGELES
SUPPLEMENT

FREEAXEZ, LLC
1805 Underwood Boulevard
Delran, New Jersey 08075
(856) 764-0400
www.freeaxez.com

FREEAXEZ GRIDD® ADAPTIVE CABLE DISTRIBUTION SYSTEMS

CSI Section:
09 69 33 – Low Profile Fixed Height Access Flooring

1.0 RECOGNITION

The FreeAxez Gridd® cabling distribution systems recognized in this report have been evaluated in IAPMO UES ER-518 and the LABC for use as an interior, adaptive, cabling distribution and management floor system. The structural performance and fire-resistance properties of the Gridd® system comply with the intent of the provisions of the following code and regulations:

• 2023 City of Los Angeles Building Code (LABC)

2.0 LIMITATIONS

The FreeAxez Gridd® cabling distribution system described in this report supplement is subject to the following limitations in addition to the limitations shown in ER-518.

2.1 Use and installation shall be in accordance with ER-518, the manufacturer’s installation plans and published installation instructions, and the City of Los Angeles Building Code. A copy of the manufacturer’s installation instructions and plans shall be available on site for Registered Deputy Inspectors. Where conflicts occur, the more restrictive shall govern.

2.2 Design loads shall be determined in accordance with the LABC Chapter 16. Allowable loads values shall not be further increased for short duration loading such as wind and seismic.

2.3 Special inspections, where required, shall be in accordance with the LABC Chapter 17, as applicable.

2.4 This supplement expires concurrently with ER-518.

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

FREEAXEZ, LLC
1805 Underwood Boulevard
Delran, New Jersey 08075
(856) 764-0400
www.freeaxez.com

FREEAXEZ GRIDD® ADAPTIVE CABLELING DISTRIBUTION SYSTEMS

CSI Section:
  09 69 33 – Low Profile Fixed Height Access Flooring

1.0 RECOGNITION

The FreeAxez Gridd® cabling distribution systems recognized in this report have been evaluated for use as an interior, adaptive, cabling distribution and management floor system. The structural performance and fire-resistance properties of the Gridd® system comply with the intent of the provisions of the following codes and regulations:

- 2022 California Building Code (CBC)
- Additional requirements and limitations for compliance with chapters of the Division of the State Architect (DSA), the California Office of the State Fire Marshall, and the California Health Care Access and Information (formerly OSHPD) (HCAi) are in Sections 3.0 through 5.0 of this supplement.

2.0 LIMITATIONS

The FreeAxez Gridd® cabling distribution systems when installed and recognized in this report are subject to the limitations stated in Evaluation Report ER-518 and the following additional limitations:

2.1 The design, installation, limitations, and identification of the FreeAxez Gridd® cabling distribution systems shall be in accordance with the 2021 International Building Code or the 2021 International Residential Code, as applicable, as noted in ER-518.

2.2 The systems described in this report shall be used and installed in accordance with ER-518 and Chapters 7, 8, and 16 of the CBC.

2.3 This supplement expires concurrently with ER-518.

3.0 LIMITATION SPECIFIC TO DSA

When installed under DSA, the systems described in this report shall be designed and installed in accordance with ER-518 and Chapters 7, 8, 16, and 16A, of the CBC, as applicable.

4.0 LIMITATION SPECIFIC TO OSFM

When installed under OSFM, the systems described in this report shall be designed and installed in accordance with ER-518 and Chapters 7, 8, 16, and 16A, of the CBC, as applicable.

5.0 LIMITATION SPECIFIC TO HCAi (formerly OSHPD)

When installed under HCAi, the systems described in this report shall be designed and installed in accordance with ER-518 and Chapters 7, 8, 16, and 16A, of the CBC, as applicable.

For additional information about this evaluation report please visit www.uniform-es.org or email at info@uniform-es.org
ABU DHABI INTERNATIONAL BUILDING CODE SUPPLEMENT

FREEAXEZ, LLC
1805 Underwood Boulevard
Delran, New Jersey 08075
(856) 764-0400
www.freeaxez.com

FREEAXEZ GRIDD® ADAPTIVE CABLELING DISTRIBUTION SYSTEMS

CSI Section:
   09 69 33 – Low Profile Fixed Height Access Flooring

1.0 RECOGNITION

The FreeAxez Gridd® cabling distribution systems as evaluated and represented in IAPMO UES Evaluation Report ER-518 and with changes as noted in this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

   • 2013 Abu Dhabi International Building Code (ADIBC)

2.0 LIMITATIONS

Use of the FreeAxez Gridd® cabling distribution system described in IAPMO UES ER-518 complies with the 2013 ADIBC when meeting the requirements of the 2009 International Building Code.

This supplement expires concurrently with ER-518.

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