

ICC-ES Evaluation Report


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<p>DIVISION: 10 00 00 - SPECIALTIES</p> <p>Section: 10 22 19— Demountable Partitions</p>	<p>REPORT HOLDER:</p> <p>KRUEGER INTERNATIONAL, INC.</p>	<p>EVALUATION SUBJECT:</p> <p>GENIUS PARTITION SYSTEMS</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012, 2009 and 2006 [International Building Code® \(IBC\)](#)

Properties evaluated:

- Structural
- Surface burning characteristics

2.0 USES

The Genius Partition Systems are relocatable, floor-to-ceiling, nonload-bearing, nonfire-resistance-rated, interior wall partition systems for use in buildings classified as combustible or non-combustible construction.

3.0 DESCRIPTION

3.1 General:

The partition systems consist of prefabricated panels and steel roof and floor tracks. The three partition systems covered under this evaluation report are the Q11-Genius-Solid Panel, XF-Genius-Single Panel, and DX-Genius-Double Panel. The partition systems, installed in accordance with this evaluation report and the manufacturer’s published instructions, resist the 5 psf (24 N/m²) transverse design load specified in 2018 IBC Section 1607.15, 2015 and 2012 IBC Section 1607.14, and 2009 and 2006 IBC Section 1607.13.

3.2 System Descriptions:

3.2.1 Q11-Genius-Solid Panel: The Q11-Genius-Solid Panel system consists of prefabricated panels manufactured with steel-sheet facings on both sides of an extruded aluminum perimeter frame. The steel facings are stiffened with one or more intermediate stiffeners based on the height of the panels. The panel cavities are filled with fiberglass insulation. The steel facings are held to the perimeter frame by polyvinyl chloride (PVC) beads that are adhered to one face of the steel facing and snapped into the “C” shape grooves in the frame. The vertical members of the frame, spaced a maximum of 60 inches (1524 mm) apart, comply with the deflection requirement (L/120) specified in IBC Table 1604.3 under a 5 psf (24 N/m²) uniform transverse design load. The steel facings of the panels are factory-covered with wall covering materials that are either vinyl fabric or woven fabric bonded with pigmented and plasticized vinyl resins. The total thickness of the wall covering material is less than 0.036 inch (0.9 mm). The factory-assembled panels are 6 to 60 inches (152 to 1524 mm) wide and 3½ inches (89 mm) thick, and have a maximum height of 10 feet (3048 mm).

3.2.2 XF-Genius-Single Glazed Panel: Each XF-Genius-Single Glazed Panel consists of an extruded aluminum perimeter frame and a glass insert. The aluminum perimeter frame members, spaced a maximum of 48 inches (1219 mm) apart, comply with the deflection requirement (L/175) specified in IBC Section 2403.3 under a 5 psf (24 N/m²) uniform transverse design load. The glass insert is 1/4-inch-thick (6.3 mm) tempered glass. The factory-assembled panels are 6 to 48 inches (152 to 1219 mm) wide and 3 1/2 inches (89 mm) thick, and have a maximum height of 10 feet (3048 mm).

3.2.3 DX-Genius-Double Panel: Each DX-Genius-Double Panel consists of an extruded aluminum perimeter frame glazed with dual-pane glass glazing. The aluminum perimeter frame members, spaced a maximum of 48 inches (1219 mm) apart, comply with the deflection requirement (L/175) specified in IBC Section 2403.3 under a 5 psf uniform transverse design load. Each lite of the dual-pane glass insert is 1/4-inch-thick (6.3 mm) tempered glass. The factory-assembled panels are 6 to 48 inches (152 to 1219 mm) wide and 3 1/2 inches (89 mm) thick, and have a maximum height of 10 feet (3048 mm).

3.3 Materials:

3.3.1 Framing Members: The framing members for the Genius Partition Systems are extruded from aluminum having an alloy-temper designation of 6063-T6. The horizontal and vertical framing members are fastened together in the factory in accordance with the approved quality control documentation.

For Q11-Genius-Solid Panels, the horizontal top and bottom aluminum framing members of each panel are C-shaped channels, with stiffeners along the web and legs, with the web 2.63 inches (66.5 mm) wide and 0.10 inch (2.5 mm) thick, and the legs 2.5 inches (63.5 mm) long and 0.07 inch (1.65 mm) thick. The vertical aluminum frame members at the perimeter of each panel are C-shaped channels, with stiffeners along the web and legs, with the web 2.63 inches (66.5 mm) deep and 0.10 inch (2.5 mm) thick, and the legs 1.72 inches (44.5 mm) long and 0.10 inch (2.5 mm) thick.

For XF-Genius-Single and DX-Genius-Double glazed panels, the framing members are 3.5-inch-wide (89 mm) C-shaped channels. The web of the XF framing member has one continuous 0.53-inch-wide-by-0.37-inch-deep (13.5 mm by 9.4 mm) groove. The web of the DX framing member has two parallel continuous 0.375-inch-wide-by-0.39-inch deep (9.5 mm by 9.9 mm) grooves. A PVC or polypropylene glazing gasket is factory-installed into the grooves to accommodate the factory installation of the glazing described in Section 3.3.7 of this evaluation report.

3.3.2 Steel Facing: The steel facing material of the Q11-Genius-Solid-Panel is No. 22 gage [0.030 inch (0.762 mm) base-metal thickness] sheet steel conforming to ASTM A1008 CS Type B with a minimum yield strength of 20,000 psi (140 MPa), with a prepainted or a powder coat finish.

3.3.3 Steel Stiffeners: The horizontal intermediate steel stiffeners of the Q11-Genius-Solid-Panel panels are hat-shaped channels and are cold-formed from No. 18 gage [0.0451 inch (1.15 mm) base-metal thickness] sheet steel conforming to ASTM A1008 CS Type B with a minimum yield strength of 20,000 psi (140 MPa), with a prepainted finish. The hat-shaped stiffener is 0.375 inch (9.5 mm) in height and has an overall width of 2 inches (51 mm); it comes in various lengths for installation between two vertical frame members of each panel.

3.3.4 Ceiling Track: Ceiling tracks are cold-formed from No. 18 gage [0.0451 inch (1.15 mm) base-metal thickness] steel conforming to ASTM A1008 CS Type B, with a minimum yield strength of 20,000 psi (140 MPa) and with a powder coat finish.

3.3.5 Floor Channel: The floor channels are cold-formed from No. 16 gage [0.0566 inch (1.44 mm) base-metal thickness] steel conforming to ASTM A1008 CS Type B, with a minimum yield strength of 20,000 psi (140 MPa) and with a prepainted finish. The floor channels are factory-attached to the partition systems so that the channel pivots around a clevis pin. The lower half of the steel clevis assembly is stamped into each end of the floor channel. The floor channel is held onto the upper half of the steel clevis assembly by ASME B18.8.1 steel clevis pins that are retained with steel cotter pins. The upper part of the steel clevis assembly is fastened to 1/2-13UNC by 5-inch-long (127 mm) glide bolts, complying with ASME B18.2.1 Grade 2 or better, by steel rivets. The glide bolt threads into a zinc-die casting that is press-fitted and screwed into the vertical frame member of the frame. [Figure 1](#) shows a typical floor channel assembly.

3.3.6 Insulation: The internal cavity of each Q11-Genius-Solid Panel is filled with 2.50 to 2.75-inch-thick (63.5 to 69.9 mm), 0.5 to 0.7-pound-per-cubic-foot (8-11.2 kg/m³) fiberglass insulation batt as specified in the approved quality control manual. The fiberglass insulation batt has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The fiberglass insulation strips installed in the cavities above the top and beneath the bottom of panel frame members during the installation of the panels at the jobsite must be approved by the code official.

3.3.7 Glazing: The glazing in the XF-Genius-Single and DX-Genius-Double panels is factory-installed, minimum ¼-inch-thick (6.4 mm) fully tempered glass that complies with Category II of CPSC 16 CFR Part 1201 or Class A of ANSI Z97.1.

4.0 DESIGN AND INSTALLATION

4.1 Design:

A structural analysis to determine adequacy of the attachments of the Genius Partition Systems to the structure at the top and bottom of the panels, including the T-bar ceiling channel connecting brackets and the floor channel fasteners, and the suspended ceiling grids to resist lateral loads imposed by the partition systems, must be provided to the code official for approval. The structural analysis must be prepared by a registered design professional in compliance with 2018 and 2015 IBC Section 1607.15, 2012 IBC Section 1607.14 or 2009 and 2006 IBC Section 1607.13, as required by Section 13.5.8 of ASCE 7 (which is referenced by IBC Section 1613).

4.2 Installation:

4.2.1 General: The partition systems must be installed in accordance with the manufacturer's published installation instructions and this evaluation report. A copy of the manufacturer's published installation instructions must be available at all times on the jobsite during installation.

4.2.2 Ceiling Channel Installation: The ceiling channels are attached to the suspended ceiling grids by use of T-bar ceiling connecting brackets, spaced at approximately 24 inches (610 mm) on center. Each T-bar connection bracket must be tightened against the existing ceiling grid system with a ¼-20 (6.4 mm) UNC threaded stud.

4.2.3 Partition System Installation: Each partition system must be positioned beneath the ceiling channel so that the top of the partition engages the ceiling channel and the base of the partition is angled away from the ceiling channel. The partition is rotated into position under the ceiling channel with a maximum allowable gap of 2 inches (51 mm) left between the ceiling and the top of the partition. The partition is then leveled and plumbed. Additional partitions are erected in a similar manner and are then slid next to the previous installed partition. A partition connector is pressed into the vertical joint between the two partitions. After all partitions have been put into position and connected to each other, the floor channel is fastened to the floor. The aluminum base cover is then installed onto the floor channel.

5.0 CONDITIONS OF USE

The Genius Partition Systems described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** The systems must be manufactured, identified, and installed in accordance with this report and the manufacturer's published installation instructions. If there is a conflict between this evaluation report and the manufacturer's published installation instructions, this evaluation report governs.
- 5.2** The maximum partition height is 10 feet (3048 mm).
- 5.3** The partition systems are limited to interior nonload-bearing applications.
- 5.4** Calculations to justify the use of ceiling grids and connectors described in Sections 5.5 and 5.7 of this report must be submitted, at the time of permit application, for approval by the code official. The calculations and/or details must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.5** Adequacy of ceiling grids to resist lateral loads imposed by the partition systems must be justified to the code official.
- 5.6** Use of the partition systems to support furniture loads, and incorporation of door components or electrical wiring, are outside the scope of this report.
- 5.7** Connectors, including T-bar ceiling channel connecting brackets and floor channel fasteners, used to connect the partition system to supporting members, must be shown or defined in drawings or specifications and approved by the code official.
- 5.8** The installation detail of floor tracks, including fastener type, size and spacing, as well as the substrates to which the floor tracks are attached, is outside the scope of the evaluation report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Sandwich Panels \(AC04\)](#), dated February 2012 (Revised May 2018).

7.0 IDENTIFICATION

- 7.1 The Genius Partition Systems described in this report are identified by a label bearing the manufacturer's name (Krueger International, Inc.), the product name, and the evaluation report number (ESR-2673).
- 7.2 Glass glazing must meet the requirements of 2018, 2015, 2012 and 2009 IBC Section 2406.3 or 2006 IBC Section 2406.2, as applicable, and must be labeled in accordance with CPSC 16 CFR 1201.
- 7.3 The report holder's contact information is the following:

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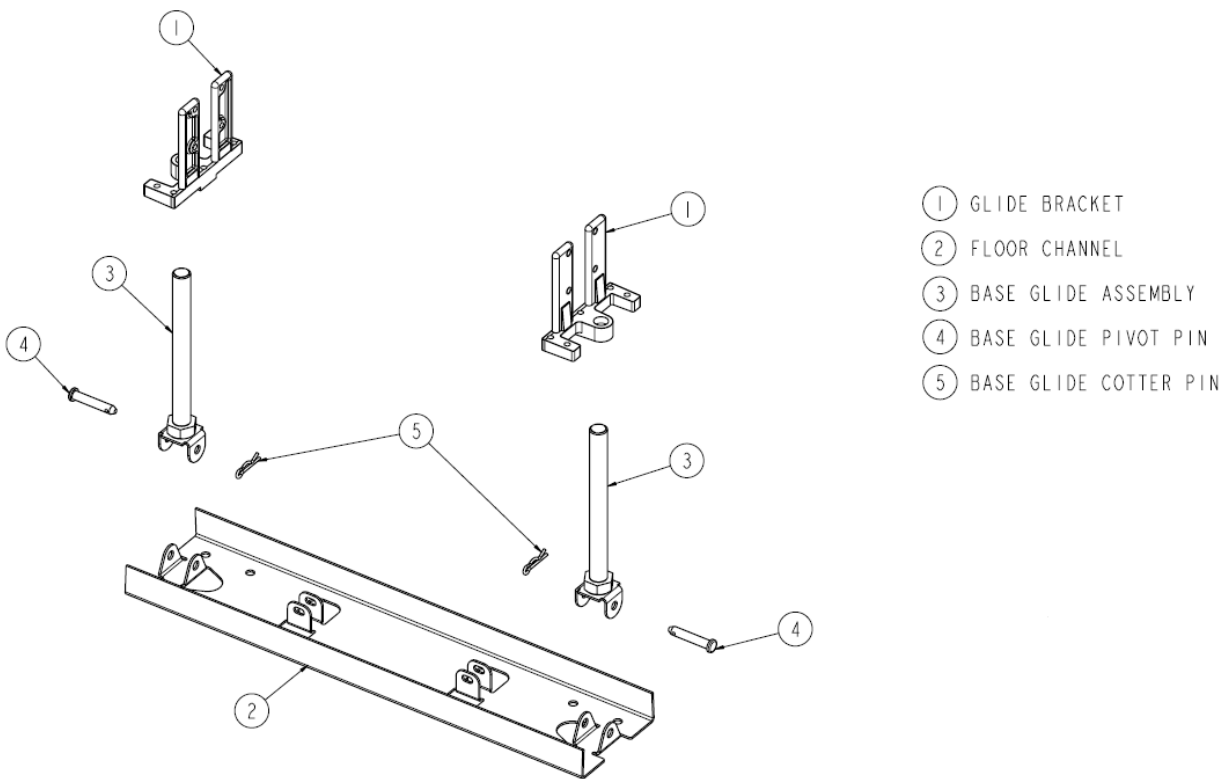


FIGURE 1—TYPICAL FLOOR CHANNEL ASSEMBLY OF GENIUS PARTITION SYSTEMS