ICC-ES Evaluation Report

ESR-1598

Reissued December 2023

This report also contains:

- CBC Supplement

Subject to renewal December 2025

DIVISION: 10 00 00 — SPECIALTIES Section: 10 22 19 — Demountable Partitions	REPORT HOLDER: TEKNION LIMITED	EVALUATION SUBJECT: ALTOS PORTRAIT, OPTOS FZ, OPTOS FX, OPTOS-CLERESTORY AND TEK VUE WALL SYSTEMS	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Structural
- Surface-burning characteristics

2.0 USES

The Altos Portrait, Optos FX, Optos FZ, Optos-Clerestory and Tek Vue Wall Systems are moveable, floor-to-ceiling, nonload-bearing, combustible interior wall partition systems for use in buildings where combustible partitions are permitted.

3.0 DESCRIPTION

3.1 General:

The partition systems, when installed in accordance with this report and the Teknion Limited installation instructions, have adequate strength to resist the 5 psf (0.24 kN/m^2) transverse load requirement specified in 2018 IBC Section 1607.15 (2015 and 2012 IBC Section 1607.14; 2009 and 2006 IBC Section 1607.13).

3.1.1 Altos Portrait Wall System: The Altos Portrait wall system consists of prefabricated, melamine-covered, particleboard panels that are jobsite-attached to both faces of steel frame members with steel base and ceiling channels. The wall system is 3.94 inches (100 mm) thick and has been evaluated for wall heights up to 120 inches (3048 mm). The components are illustrated in Figure 1 of this report.

3.1.2 Optos FZ and FX Wall Systems: The Optos FZ and FX wall systems consist of a metal frame and a glass insert. The bottom and top framing members which support the glass insert must be attached to the supporting structure. Vertical posts are provided at the start and end of the wall line. The wall systems have been evaluated for wall heights up to 120 inches (3048 mm). The Optos FZ system is compatible with 3/8-inch (10mm) thick glass panels, and the Optos FX system is compatible with ½-inch (12 mm) thick glass panels. The components are illustrated in Figure 2 of this report.

3.1.3 Optos-Clerestory Wall System: This wall system is similar to the Altos Portrait Wall System described in Section 3.1.1. of this report, except that the upper portion of the wall system includes a glass insert. The

glazed portion of the wall system is a preassembled glazed subassembly of ¼-inch-thick (6 mm) glass and an aluminum frame. The glass frame assembly connects to the framing members by the use of retainer clips. When installed, the frame members must meet the deflection requirements specified in IBC Section 2403.3 under a 5 psf design load. The wall system has been evaluated for wall heights up to 120 inches (3048 mm) with a maximum height of 84 inches (2134 mm) for the melamine-covered particle board and a maximum height of 36 inches (914 mm) for the glazed portion. The components are illustrated in Figure 3 of this report.

3.1.4 Tek Vue Wall System: The Tek Vue wall system consists of an aluminum frame and a glass insert. The bottom and top framing members which support the glass insert must be attached to the supporting structure. Vertical posts are provided at the start and end of the wall line. The wall system has been evaluated for wall heights up to 120 inches (3048 mm). The components are illustrated in Figure 4 of this report.

3.2 Materials:

3.2.1 Melamine-covered Particleboard: The Altos Portrait and Optos-Clerestory Wall systems consist of $^{11}/_{16}$-inch-thick (17.5 mm), melamine-covered particleboard that complies with ANSI A 208.1-93, Type M2. The panels have plastic clips on the back for connection to vertical posts, located on the edges and spaced at 0.810 inch (20.6 mm) on center. The panels have a Class C flame-spread index of 200 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The panels are supplied in 12- to 48-inch (305 to 1219 mm) widths and lengths up to 120 inches (3048 mm).

3.2.2 Glass Inserts:

3.2.3 Optos: The glass of the Optos FZ wall system is ⅜-inch-thick (10 mm), tempered glass complying with CPSC 16 CFR 1201 Category II or ANSI Z97.1 or laminated glass complying with ASTM C1172 and CPSC 16 CFR 1201 Category II or ANSI Z97.1. The glass of the Optos FX wall system is $^{1}/_{2}$-inch-thick (12 mm), tempered glass complying with CPSC 16 CFR 1201 Category II or ANSI Z97.1 or laminated glass complying with ASTM C1172 and CPSC 16 CFR 1201 Category II or ANSI Z97.1. The $^{3}/_{8}$-inch-thick (10 mm) glass for the FZ system is supplied in various widths from 15 to 36 inches (381to 914 mm) and the ½-inch-thick (12 mm) glass for the FX system is supplied in various widths from 15 to 48 inches (381 to 1219 mm).

For Optos FZ wall systems that utilize $^{3}/_{8}$-inch thick (10 mm) laminate glass, the glass panels must be installed such that the glass panels are continuously supported on three sides by framing members that are attached to the floor, ceiling and adjacent wall; a glass panel width of 42-inches (1077 mm) or less is permitted.

3.2.3.1 Optos-Clerestory: The glass used with the Optos-Clerestory wall system is ¼-inch-thick (6 mm), tempered or laminated glass complying with CPSC 16 CFR 1201 Category II or ANSI Z97.1. The glass is supplied in various sizes from 12-by-12-inch (305 by 305 mm) to 36-by-48-inch (914 to 1219 mm). The glass is assembled in an aluminum frame.

3.2.3.2 Tek Vue: The glass used with the Tek Vue wall system is $^{3}/_{8}$-inch thick (10 mm) or ½- inch thick (12 mm) tempered glass complying with CPSC 16 CFR 1201 Category II or ANSI Z97.1 or ½- inch thick (12 mm) laminated glass complying with ASTM C1172 and CPSC 16 CFR 1201 Category II or ANSI Z97.1. The 3/8-inch-thick (10 mm) glass is supplied in various widths from 12 to 36 inches (305 to 914 mm) and the ½-inch-thick (12 mm) glass is supplied in various widths from 12 to 48 inches (305 to 1219 mm).

3.2.4 Framing Members:

3.2.4.1 Altos Portrait Wall System: The Altos Portrait Wall System steel framing members consist of 0.0635-inch (1.61 mm) (base-metal thickness) galvanized steel as described in the approved quality documentation, having a minimum tensile strength of 16,000 psi (110 MPa). Vertical posts (Part FKV) measure 1.102 inches by 2.284 inches (28 mm by 58 mm) in cross section, with $^{3}/_{16}$-inch-diameter (4.8 mm) holes on 1-inch (25.4 mm) centers. Horizontal rails (Part FKH), measuring 1.102 inches by 2.284 inches (28 mm by 58 mm), span between the vertical rails. Ceiling (Part FKN) and base (Part FKB) C-shaped channels are formed from 0.0456-inch (1.16 mm base-metal thickness) galvanized steel as described in the approved quality documentation, having a minimum tensile strength of 16,000 psi (110 MPa).

3.2.4.2 Optos FZ and Optos FX Wall Systems: The Optos wall systems consist of 6063-T5 extruded aluminum ceiling frame beam (FZFC or FXFC) and ceiling top spacer (FZFP or FXFP) and steel vertical posts (Part No. FZFV or FXFV) and 6063-T5 extruded aluminum frame beam and channel (Part No. FZFB or FXFB). The steel framing members are manufactured from 0.0635-inch-thick (1.61 mm base-metal thickness) galvanized steel as described in the approved quality documentation, having a minimum tensile strength of 16,000 psi (110 MPa). The ceiling frame beam (Part FZFC or FXFC) and ceiling top spacer (Part FZFP or FXFP) are used to support the glass at the top. The base frame beam and channel (Part FZFB or FXFB) are used to support the glass at the bottom. The vertical posts are used at the start (Part FZFS) and end of a wall line (Part FZFE).

3.2.4.3   Optos-Clerestory Wall System: The steel framing members are the same as for the Altos Portrait Wall System described in Section 3.2.3.1, except that the ceiling spacer (Part FZFP) is the same as the Optos Wall system described in Section 3.2.3.2.

3.2.4.4   Tek Vue Wall System: The Tek Vue wall system consists of 6063-T5 extruded aluminum ceiling frame (FVFC) 1.378-inches x 2.530-inches (35mm x 60mm), floor base frame (FVFB) .378-inches x 2.530-inches (35mm x 60mm) and vertical wall start (FVSWS) .378-inches x 2.530-inches (35mm x 60mm). The floor base frame (FVFB) and the vertical wall stat (FVSWS) have an adjustability range of $-1/2$-inch (12.7mm) and $+1/4$-inch (6.4mm).

3.2.5   Trim: Edges of the Altos Portrait and Optos-Clerestory wall systems are protected with a acrylonitrile butadiene styrene (ABS) trim having a flame-spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The trim pieces for the Optos wall system are made from extruded aluminum.

3.2.6   Fasteners: Fasteners attaching the Altos Portrait and Optos-Clerestory Wall System melamine-covered particle board to the vertical posts consist of male plastic clips (Part FBFM) factory-mounted on the back side of the particleboard, and female clips (Part FBFF) mounted on the vertical post. Fasteners for attaching horizontal rails to the vertical posts are horizontal connector bolts (Part FBN) secured to the vertical post and horizontal end caps attached to the horizontal rail. The glass panel of the Optos wall system is held in place via levelers, security brackets and attachment clips as described in Teknion's published installation instructions.

4.0 INSTALLATION

General: Base and ceiling channels of the wall system must be mechanically attached to ceilings and floors to the satisfaction of the code official. A structural analysis to determine adequacy of the ceiling grid to support the lateral load imposed by the wall system in accordance with Section 13.5 of ASCE 7 (as referenced in Section 1613 of the applicable IBC) must be provided to the code official. Glass in glazed partitions must be designed and installed in accordance with Section 13.5.9 of ASCE 7 (as referenced in (as referenced in Section 1613 of the IBC).

4.1   Altos Portrait Wall System:

Leveling devices must be attached to the base channel using four No. 8 tapping screws. Maximum 48-inch-long (1219 mm) horizontal rails must be spaced a maximum of 51 inches (1295 mm) apart and must be connected to the vertical posts by engaging the plastic horizontal clips located on the ends of the rails over the horizontal connector bolts set in the vertical post. After the panels are positioned, they must be leveled and tightened using the top leveler. Faces of all horizontal and vertical members must be covered with 1-inch-wide-by-$1/8$-inch-thick (25.4 mm by 3.2 mm) foam tape.

The particleboard panels must be attached to the vertical posts by inserting the male fascia connector mounted on the back of the panel into the female connector mounted on the vertical post. Connectors must be spaced a maximum of 47.89 inches (1216 mm) on center on vertical panel edges.

4.2   Optos FZ and Optos FX Wall Systems:

The ceiling frame beam and base channel are connected to the base frame and ceiling top spacer. The vertical wall start posts are connected to the supporting structure and are connected to the ceiling and base beams with the use of brackets. The glass insert is then installed on glass levelers and secured by glass attachment clips and security brackets. For glass-to-glass connection, acrylic adhesive tape (Part FZTA or FXTA) must be used along the 3/8-inch (10 mm) FZ glass vertical edges and ½-inch (12 mm) glass vertical edges, respectively. Vertical trim pieces are installed first, and then the base and ceiling trim pieces with end caps.

4.3   Optos-Clerestory Wall System:

The ceiling top spacer and ceiling frame beam is the same as for the Optos Wall System. The base channel assembly is the same as for the Altos Portrait Wall System. The clerestory vertical posts (Part FZCFY) are connected to the ceiling beams using brackets. The bottom of the vertical post is connected to the base channel with sheet metal screws. The installation of the particleboard to the framing members is as described in Section 4.2 of this report for the Altos Portrait Wall System. The clerestory glass module (Part FYCG) subassembly is attached to the framing members by the use of retaining clips. After the glass subassembly is installed, the other aluminum frame subassembly is attached by snapping into the retainer clips.

4.4   Tek Vue Wall System:

The ceiling frame (FVFC) is a one piece profile attached to the building structure. The base frame (FVFB) is composed of a base channel that is attached to the building structure, and an intermediate beam is then

secured on the base channel by using clipping levelers every 12-inches (305mm). The vertical wall start (FVSWS) is composed of a base channel that is attached to the building structure, and an intermediate beam is then secured on the base channel by using clipping levelers every 12-inches (305mm). The glass insert is then installed on the plastic levelers seated in the intermediate beam of the base frame, and it is secured by clipping trims. The glass insert is also secured on the vertical wall start (FVSWS) by using clipping trims. The ceiling frame beam and base channel are connected to the base frame and ceiling top spacer. For glass-to-glass connection, silicone tape (Part FVGTCA) must be used along the glass vertical edges.

5.0 CONDITIONS OF USE

The Altos Portrait, Optos FZ, Optos FX, Optos-Clerestory and Tek Vue Wall 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 instructions.

5.2 The maximum partition height for the Altos Portrait and Optos-Clerestory Wall System is 120 inches (3048 mm). The maximum glazing height of the Optos FZ, Optos FX and Tek Vue Wall Systems is 120 inches (3048 mm).

5.3 For the Altos Portrait and Optos-Clerestory Wall Systems, panel installation must be limited to interior nonload-bearing applications, where a Class C interior finish rating is permitted, as indicated in Chapter 8 of the IBC and Section 3.2.1 of this report.

5.4 Use of the panels to support furniture loads, and incorporation of door components or electrical wiring, have not been evaluated and are beyond the scope of this evaluation report. Adequacy of the ceiling grids to resist lateral loads imposed by the Altos Portrait, Optos FZ, Optos FX, Optos-Clerestory and Tek Vue Wall Systems must be justified to the code official, when the ceiling system is used to support the partition system.

5.5 Connectors used to connect the partition system to supporting members must be shown or defined in the drawings or specifications and approved by the code official.

5.6 Calculations to justify the use of the ceiling grid and connections described in Sections 5.5 and 5.6 of this report must be submitted at the time of permit application. The calculations and/or details submitted must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.7 The glass inserts used with the Optos FZ, Optos FX, Optos-Clerestory Wall and Tek Vue Systems comply with the safety glazing provisions in IBC Section 2406.

5.8 When installed in accordance with this report and Teknion's published installation instructions, the Optos FZ, Optos FZ and Tek Vue wall systems glazing complies with the requirements of IBC Section 2403.4.

6.0 EVIDENCE SUBMITTED

6.1 Data and reports of tests in accordance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04), dated June 2019.

6.2 Surface burning characteristic tests in accordance with ASTM E84.

6.3 Data showing compliance with Chapter 24 of the IBC.

7.0 IDENTIFICATION

7.1 Each wall system must be identified by a label visible after the panel is erected. The label notes the Teknion Limited name, and the evaluation report number (ESR-1598). Each bundle of Altos Portrait, Optos FZ, Optos FX, Optos-Clerestory and Tek Vue wall panels and each carton of metal components must be identified by a label bearing the Teknion Limited name and the evaluation report number (ESR-1598).

7.2 The report holder's contact information is the following:

TEKNION LIMITED
1150 FLINT ROAD
TORONTO, ONTARIO M3J 2J5
CANADA
(416) 661-3370
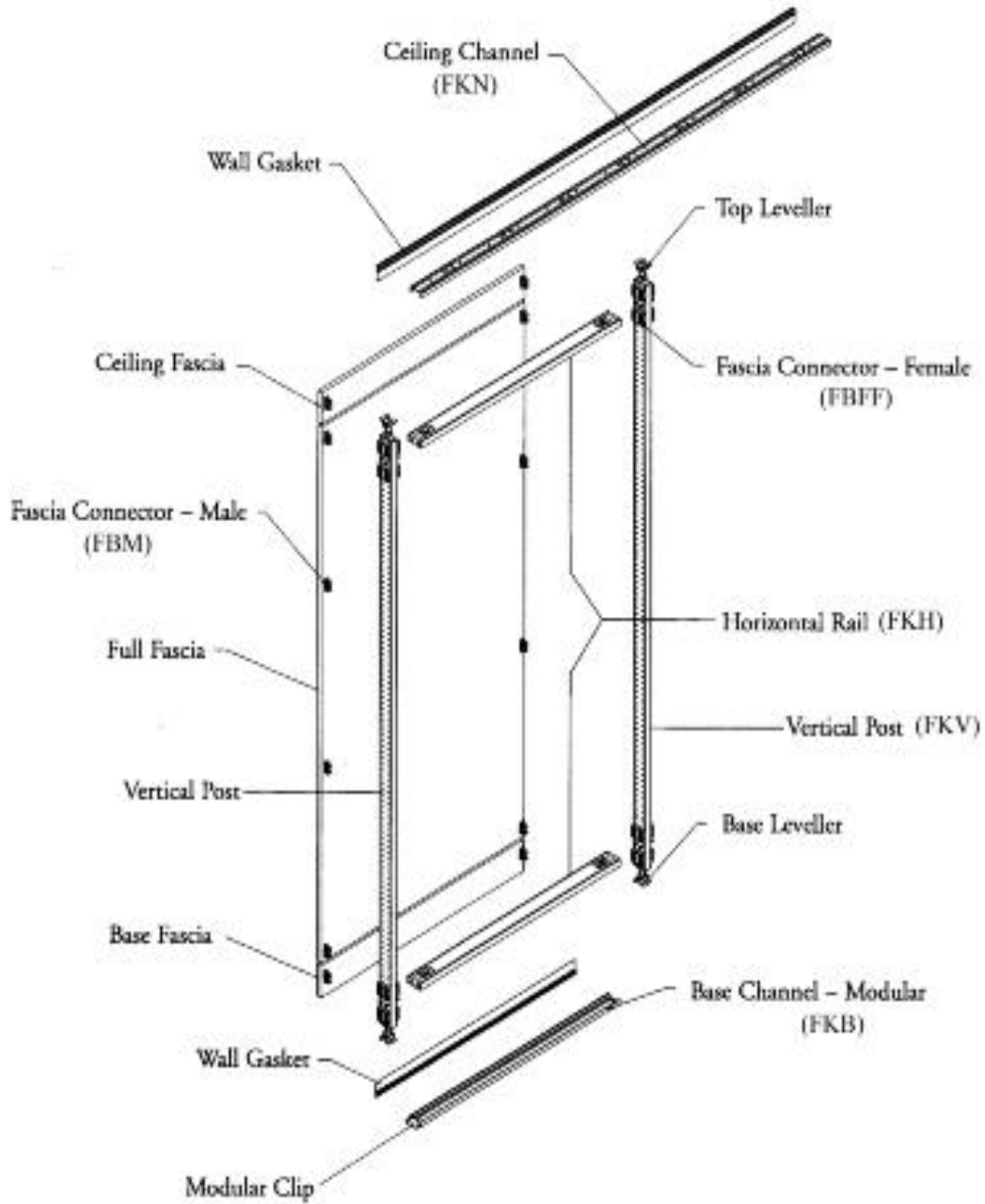**www.teknion.com**

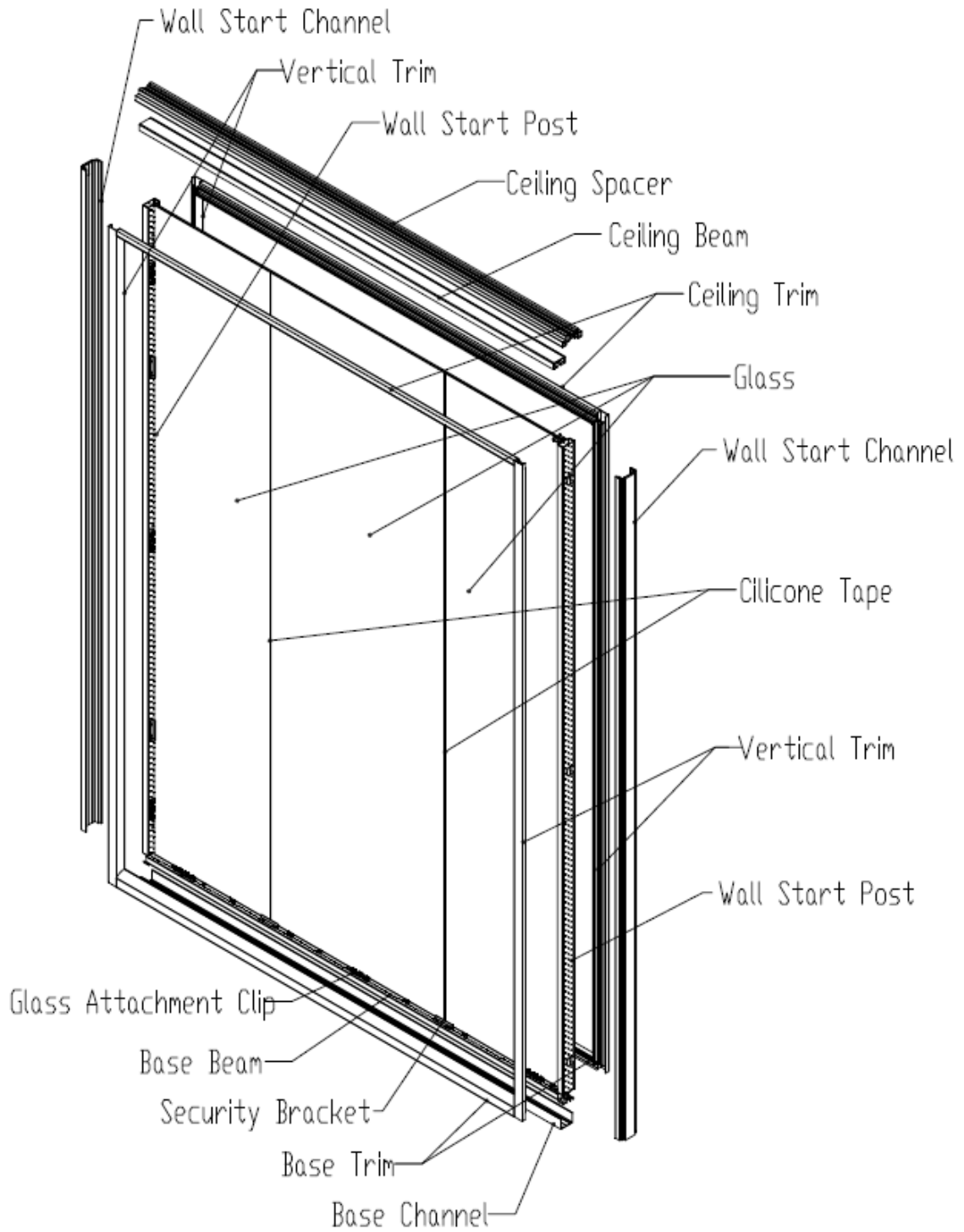**FIGURE 1—ALTOS PORTRAIT WALL SYSTEM TYPICAL PANEL COMPONENTS**

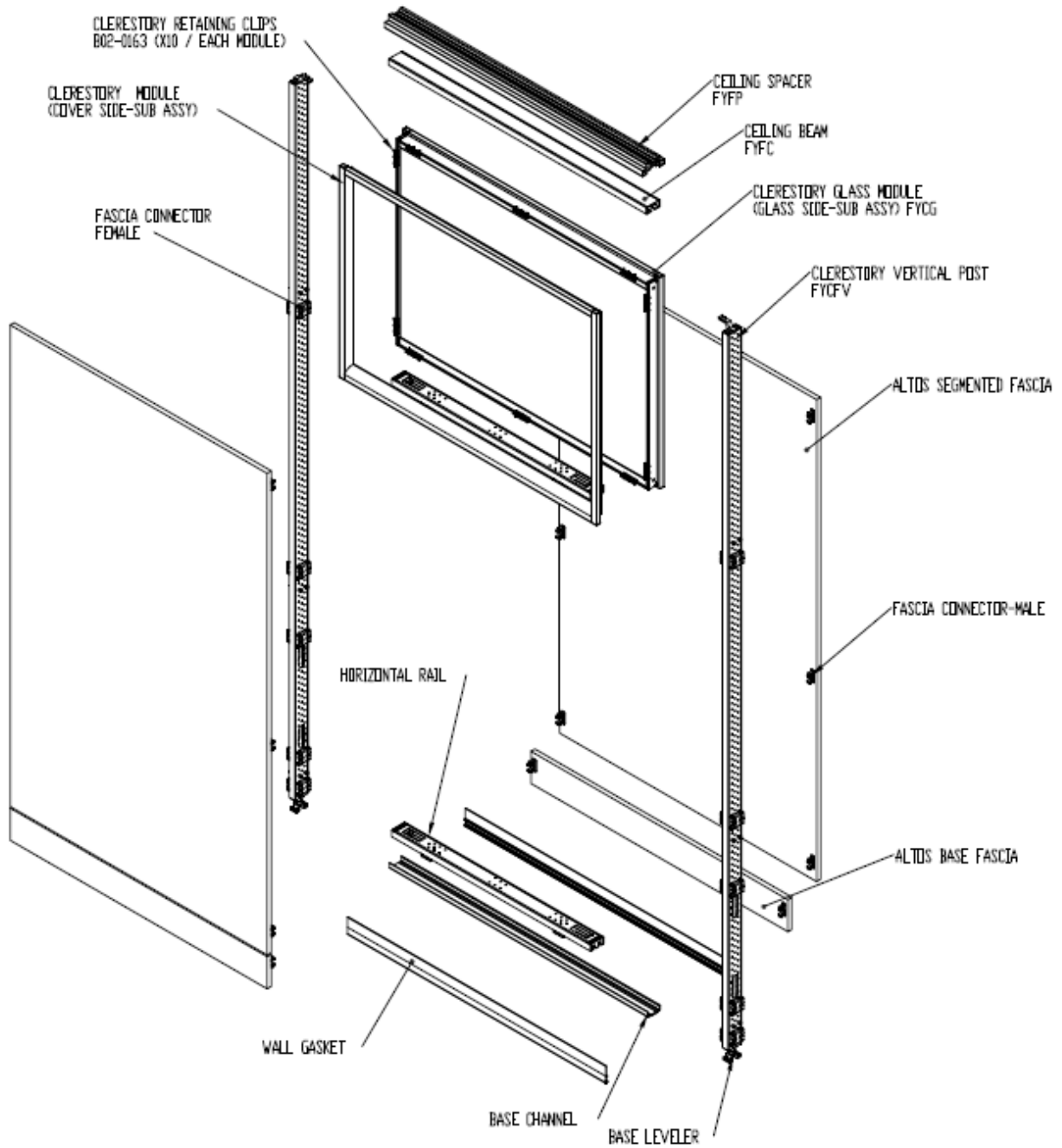**FIGURE 2—OPTOS WALL SYSTEM TYPICAL PANEL COMPONENTS**
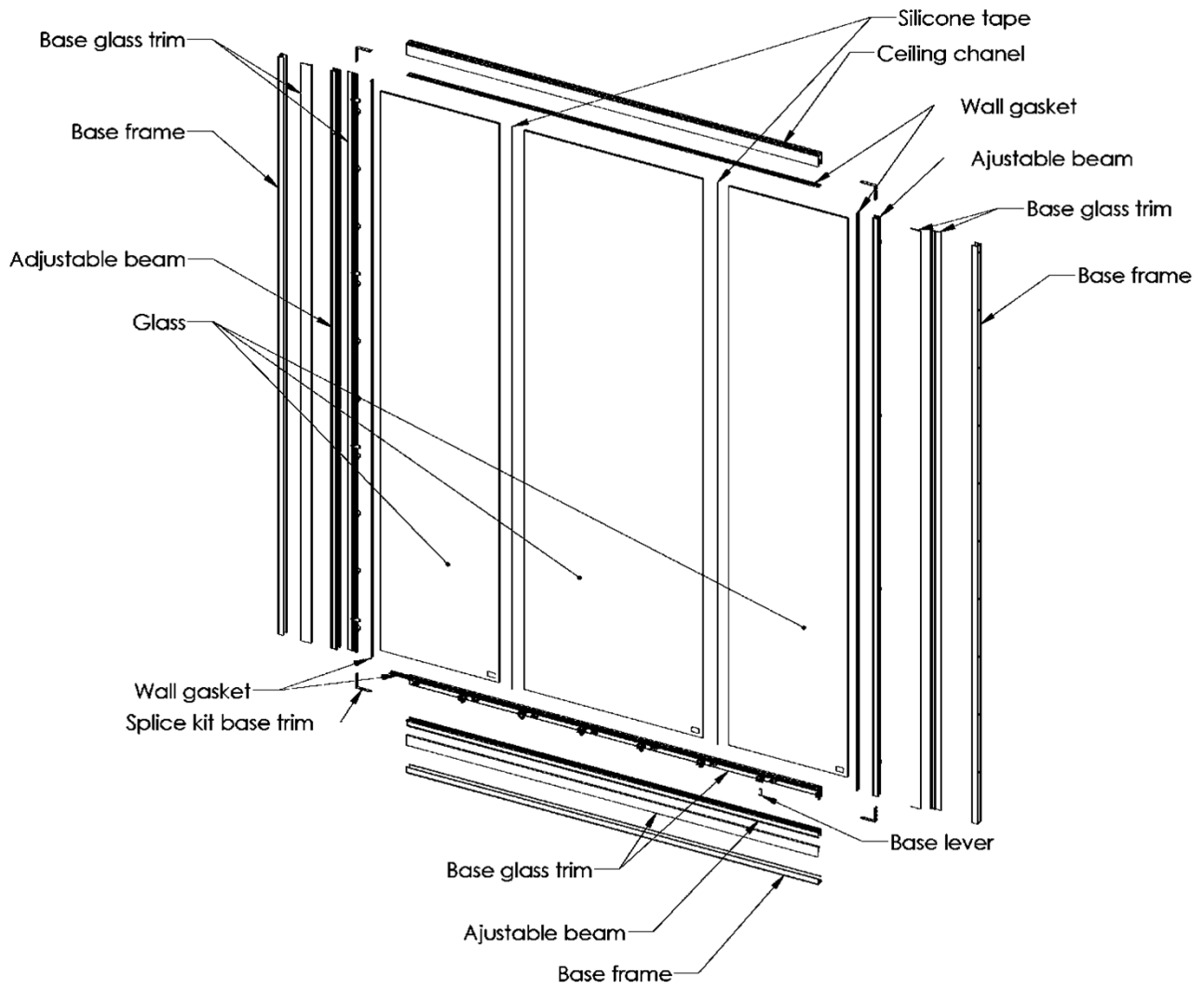
FIGURE 3—OPTOS-CLERESTORY TYPICAL PANEL COMPONENTS

Base glass trim

Base frame

Adjustable beam

Glass

Wall gasket

Splice kit base trim

Silicone tape

Ceiling chanel

Wall gasket

Ajustable beam

Base glass trim

Base frame

Base lever

Base glass trim

Ajustable beam

Base frame

FIGURE 4—TEK VUE TYPICAL PANEL COMPONENTS

DIVISION: 10 00 00—SPECIALTIES
Section: 10 22 19—Demountable Partitions

REPORT HOLDER:

TEKNION LIMITED

EVALUATION SUBJECT:

ALTOS PORTRAIT, OPTOS FZ, OPTOS FX, OPTOS-CLERESTORY AND TEK VUE WALL SYSTEMS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Altos Portrait, Optos FX, Optos FZ, Optos-Clerestory and Tek Vue Wall Systems, described in ICC-ES evaluation report ESR-1598, have also been evaluated for compliance with the code noted below.

Applicable code edition:

■ 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:

The Altos Portrait, Optos FX, Optos FZ, Optos-Clerestory and Tek Vue Wall Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-1598, comply with CBC Chapter 24, provided the design and installation are in accordance with the 2018 *International Building Code®* (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 8 and 16, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued December 2023.