Firewise Consultants LLC
Design No. FWC/JF 60-02
Wall Joint System
Concrete Column-to-Wall Joint Assembly
ASTM E1966
Rating: 1 hour
Cycling: None
UL 2079
L-Rating: <2 SCFM/LF
Nominal Joint Width: 5/8-in.

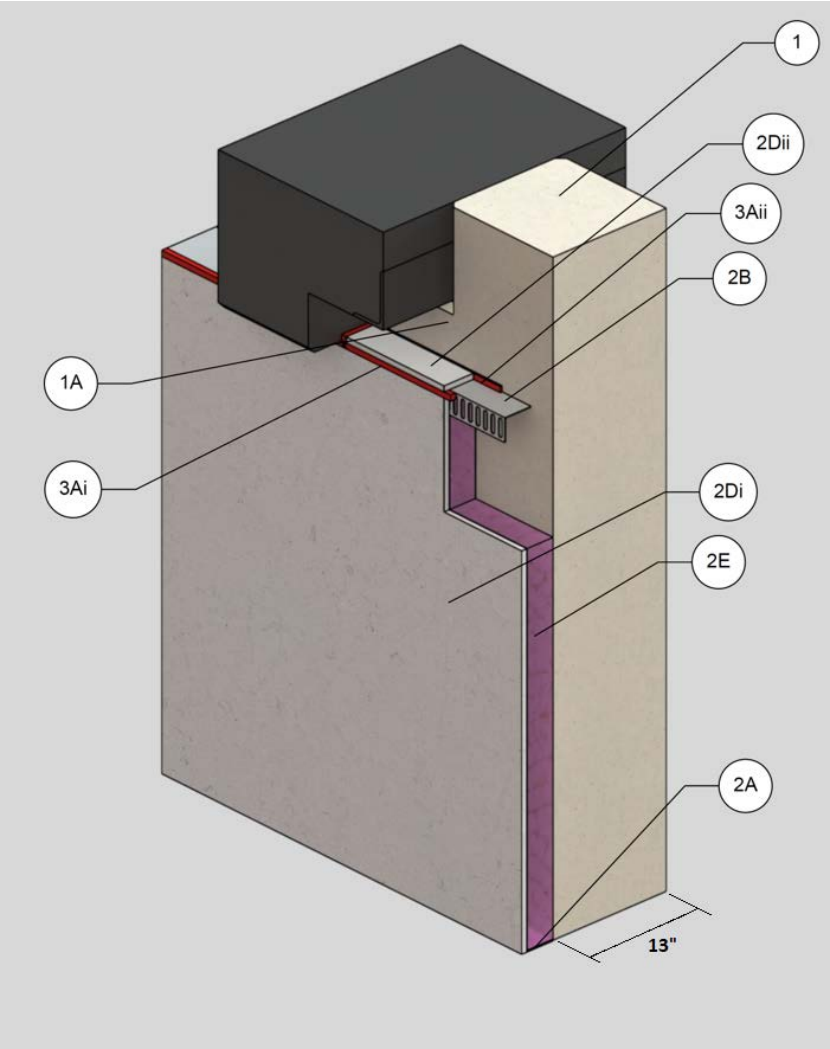

FIGURE 1. Side A Isometric View

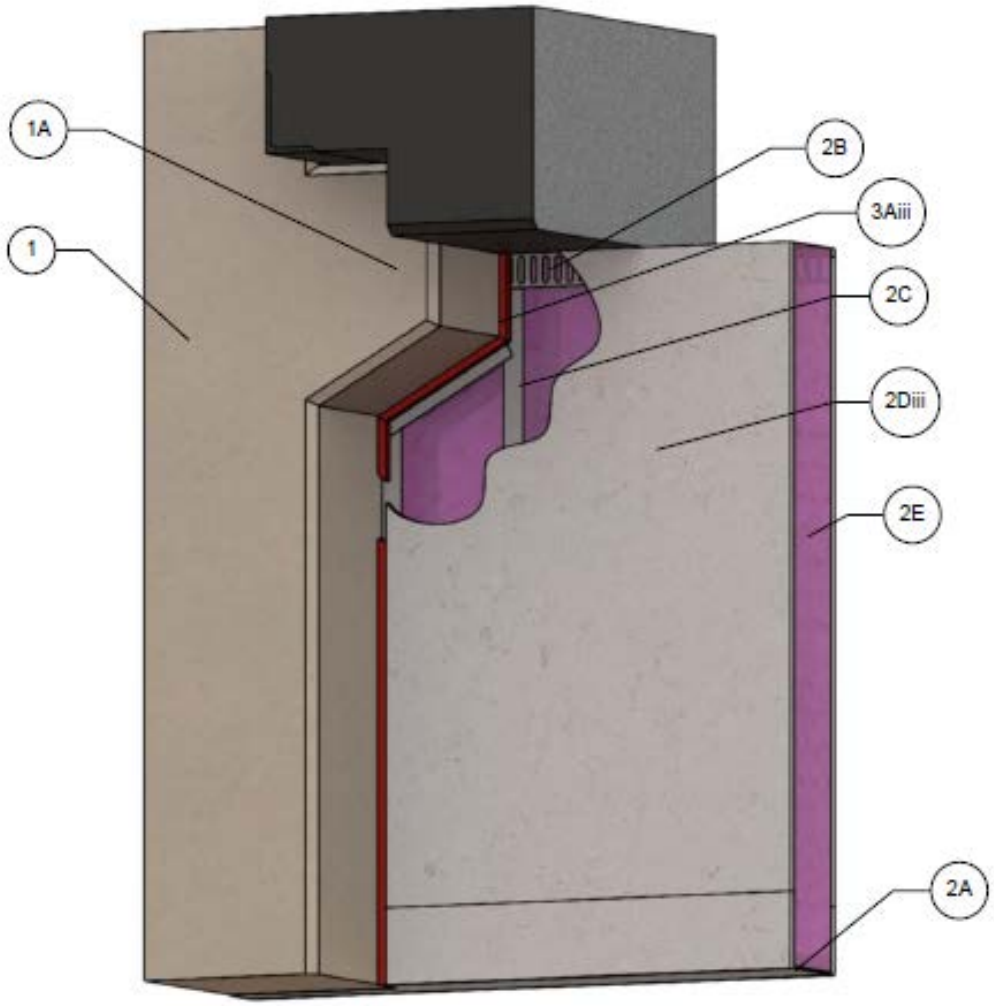

FIGURE 2. Side B Isometric View

1. **CONCRETE COLUMN ASSEMBLY:** Minimum 1-hour fire-resistance rated concrete assembly made from either lightweight of normal weight concrete with a density of 100-150 pcf, with minimum dimensions of 16 in. wide by 13 in. deep. The edges of the concrete column assembly may have up to a maximum 3/4-in. chamfer. Assembly may also be constructed of concrete masonry units (CMU) that comply with national or local building code requirements.

   A. CORBEL (Optional) – Concrete corbel cast as part of the concrete assembly (item 1). Diagonal face on underside of corbel allowed. Chamfered edges up to 3/4-in. allowed.

2. **WALL ASSEMBLY:** The wall assembly overlaps onto the concrete column a minimum of 16 in. with framing of the overlapped section installed flush against the front face of concrete assembly (Item 1). The overlapped section may overhang

a maximum of 3-1/2 in. beyond the edge of the column.

A. STEEL FLOOR RUNNERS – Floor runners of wall assembly shall consist of min. No. 25 GA galvanized steel channels to be provided with min. 1-1/4 in. legs. Floor runner secured with steel fasteners at max 24 in. on center (oc).

   Notch the vertical leg of the floor runner on the side where it intersects with the concrete column as shown in Fig. 1, Side A.

B. SLOTTED CEILING RUNNER – Slotted ceiling runner to consist of min. 20 GA galvanized steel channel with slotted flanges sized to accommodate steel studs (Item 2C). Slotted ceiling runner secured with steel fasteners spaced 24 in. oc.

   Notch the vertical leg of the ceiling runner on the side where it intersects with the concrete column as shown in Fig. 1, Side A.

C. STUDS – Steel studs to be a min. 20 GA, min. 6 in. wide, spaced at max. 24 in. oc. Decrease stud spacing as needed to ensure minimum of two studs against the concrete column assembly. Another stud is required at vertical face of corbel (Item 1A) if corbel is present. Studs secured to slotted ceiling runner with min. No. 8 x 1/2 in. long wafer head steel screws.

D. GYPSUM BOARD – Gypsum board sheets shall be min. 5/8 in. thick, Type X gypsum, complying with ASTM C1396 and the following construction requirements:

   i. SIDE A GYPSUM WALL CLADDING (Fig. 1, Side A) – up to a max. 5/8 in. gap shall be maintained from the top of the gypsum board to the top of the slotted ceiling runner (Item 2B).

   ii. GYPSUM RUNNER – On top of Slotted Ceiling Runner (Item 2B), up to a max. 5/8 in. gap shall be maintained from the short edge of the gypsum board to the adjacent assembly. A max 1/2 in. gap shall be maintained from the long edge of the gypsum board runner to the face of the column assembly (Item 1) or corbel (Item 1A). The gypsum board runner shall overhang the slotted ceiling runner a min. 5/8 in. on Side A of the wall assembly.

   iii. SIDE B GYPSUM WALL CLADDING (Fig 2., Side B) – up to a max. 5/8 in. gap shall be maintained between the edge of the gypsum board and the face of the column assembly and corbel.

E. WALL CAVITY INSULATION – The wall cavities between the studs (Item 2C) shall be insulated with min. R-19 fiberglass batt insulation.

3. JOINT SYSTEM – Max. separation between side of gypsum board (Item 2Diii) and face of concrete column (Item 1) or corbel (Item 1A) is 5/8 in. The joint system consists of fill material as follows:

A. FILL, VOID, OR CAVITY MATERIAL – Rectorseal Metacaulk 150+ Sealant, certified in accordance with ASTM E1966 and installed as follows:

   i. SIDE A WALL SEALANT MATERIAL (Fig. 1, Side A) – A min. 5/8 in. thickness of fill material troweled between the top of the gypsum wall cladding (Item 2Ei) and

the bottom face of the gypsum runner (Item 2Eii).

ii. GYPSUM RUNNER SEALANT MATERIAL (Fig. 1, Side A) – A min. 5/8 in. thickness of fill material shall be troweled between the edge of the gypsum runner (Item 2Eii) and the face of the concrete column assembly (Item 1) or corbel (Item 1A). A min. 5/8 in. thickness of fill material troweled between the short edge of the gypsum runner and the face the adjacent assembly.

iii. SIDE B WALL SEALANT MATERIAL (Fig. 2, Side B) –A min. 5/8 in. thickness of fill material shall be troweled between the edge of the gypsum wall cladding (Item 2Eiii) and the face of the concrete assembly (Item 1) or corbel (Item 1A).

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.