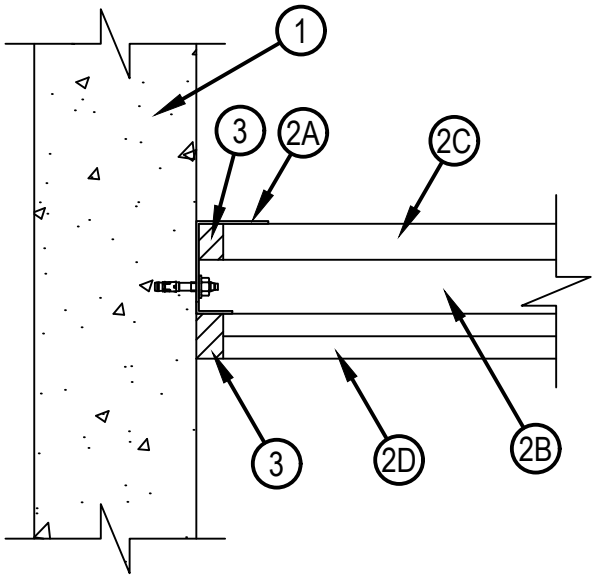
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. WW-S-0059

Assembly Rating — 1 and 2 Hr (See Item 2)

Joint Width — 1 in. Max



1. Concrete Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) structural concrete.
2. Shaft Wall Assembly — The 1 or 2 hr fire rated shaft wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory. The wall may be perpendicular or parallel to concrete wall and shall include the following construction features:
   A. Steel Runners — "J"-shaped runner, min 2-1/2 in. (64 mm) wide with unequal legs of min 1-1/4 in. (32 mm) and min 2 in. (51 mm), fabricated from min 24 MSG galv steel. The length of the shorter leg of the "J"-shaped runner used for the ceiling runner shall be min 1/4 in. (6 mm) greater than the joint width. Runners positioned with shorter leg toward finished side of wall. Runners attached to wall with steel fasteners spaced max 24 in. (610 mm) OC. As an alternate to the "J"-shaped runner, a min 2-1/2 in. (64 mm) wide by 1-1/4 in. (25 or 32 mm) deep channel formed from min 24 MSG galv steel may be used for the runner.
   B. Steel Studs — "C-T", "I" or "C-H"-shaped steel studs to be min 2-1/2 in. (64 mm) wide and formed of min 24 MSG galv steel. First stud adjacent to concrete wall assembly located max 4 in. (102 mm) from wall face. Studs spaced max 24 in. (610 mm) OC.
   C. Gypsum Board* — 1 in. (25 mm) thick by max 24 in. (610 mm) wide gypsum board liner panels. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory, except that a max 1 in. (25 mm) gap shall be maintained between the side of gypsum board and the inside face of the steel "J"-shaped runner attached to the concrete wall assembly.
   D. Gypsum Board* — Gypsum board sheets, 1/2 or 5/8 in. (13 or 16 mm) thick, applied on finished side of wall as specified in the individual Wall and Partition Design. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory, except that a max 1 in. (25 mm) gap shall be maintained between the side of the gypsum board and face of concrete wall assembly.

   The hourly fire rating of the joint system is equal to the hourly rating of the gypsum wall assembly.
3. Fill, Void or Cavity Material* Sealant — Max separation between side of gypsum board and face of concrete wall assembly is 1 in. (25 mm). Min 1 in. (25 mm) depth of sealant to be installed to fill linear gap between side of gypsum board liner panel (Item 2C) and inside surface of "J"-shaped runner prior to installation of gypsum board sheets on finished side of wall. The depth of sealant to be installed to fill the linear gap between the side of the gypsum board sheets (Item 2D) and the face of the concrete wall and shall be equal to the overall thickness of the gypsum board sheets, flush with the finished side of the wall.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.