



BXUVC.U415 Fire-resistance Ratings

Page Bottom

BXUVC - Fire-resistance Ratings

See General Information for Fire-resistance Ratings

Design No. U415

November 10, 2015

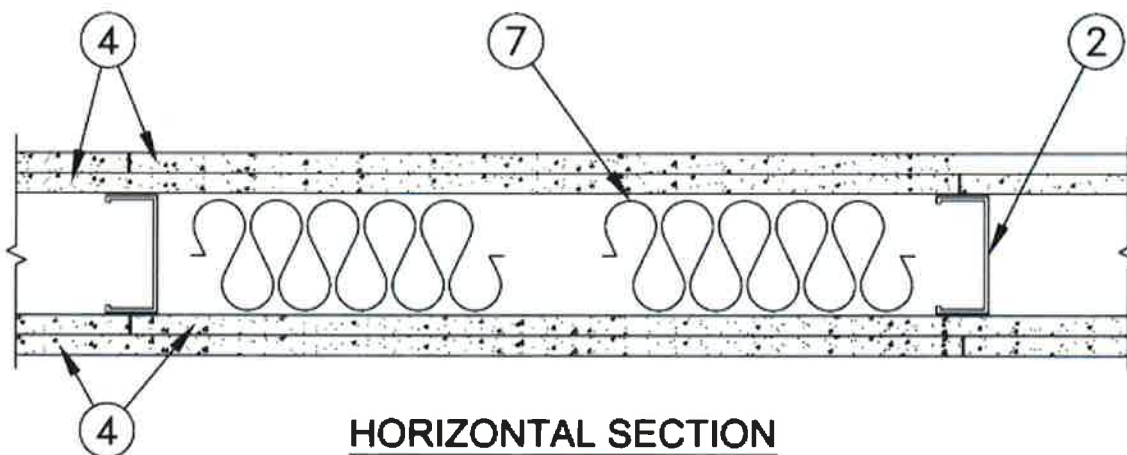
(For Exterior Walls, Ratings Applicable

For Exposure To Fire On Interior Face Only,

(See Items 2, 4 and 5)

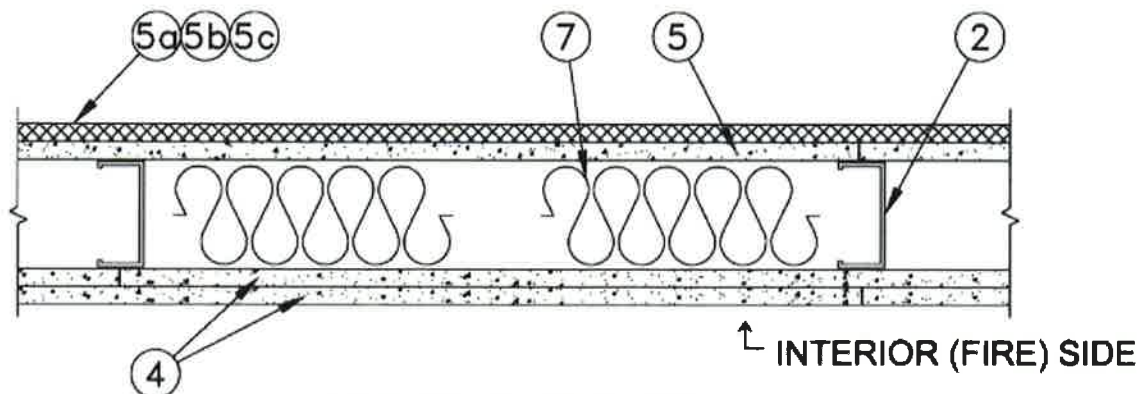
Assembly Rating - 3/4, 1, 1-1/2 or 2 h

INTERIOR WALL



HORIZONTAL SECTION

EXTERIOR WALL



↑ INTERIOR (FIRE) SIDE

HORIZONTAL SECTION

Bearing Wall

1. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped runners, fabricated from min 0.83 mm bare metal thickness (20 MSG) galvanized steel, min 92 mm deep with 32 mm flanges. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 610 mm OC.

2. **Steel Studs** — Min 0.83 mm bare metal thickness (20 MSG) galvanized steel studs, min 92 mm deep by 41 mm wide with 13 mm returns, designed in accordance with the current edition of North American Specification for the Design of Cold-Formed Steel Structural Members [CSA Standard S136]. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 610 mm OC. Studs attached to floor and ceiling runners with 13 mm long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with CSA- S136 specifications.

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3. **Lateral Support Members** — (Not Shown) — Where required for lateral support of studs, support may be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

4. **Gypsum Board** — Gypsum panels applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the $\frac{3}{4}$ h, 1 hr, 1-1/2 hr, and 2 hr ratings are as follows:

Interior Walls

Rating	Wallboard Protection on Both Sides of Wall- No. of Layers & Thickness of Wallboard Panel	% of Design Load
$\frac{3}{4}$ hr	1 layer, 12.7 mm thick*	100
1 hr	1 layer, 15.9 mm thick*	100
1-1/2 hr	2 layers, 12.7 mm thick*	100
2 hr	2 layers, 15.9 mm thick*	80
2 hr	3 layers, 12.7 mm thick*	100
2 hr	2 layers, 19 mm thick*	100

* Ratings applicable to assemblies serving as exterior walls where ULC classified fire resistive gypsum sheathing type wallboard is substituted on the exterior face.

Exterior Walls

Rating	Wallboard Protection on on Interior Side of Wall- No. of Layers & Thickness of Wallboard Panel	% of Design Load
$\frac{3}{4}$ hr	1 layer, 15.9 mm thick	100
1 hr	2 layers, 12.7 mm. thick	100
1-1/2 hr	2 layers, 15.9 mm thick	100
2 hr	3 layers, 12.7 mm thick	100
2 hr	2 layers, 19 mm thick	100

CERTAINTED GYPSUM INC — 12.7 mm thick Type C, or 15.9 mm thick Type C

CGC INC — 12.7 mm thick Type IP-X2, IPC-AR, C, WRC, or 15.9 mm thick Type SCX, SHX, WRX, IP-X1, AR, C, IP-AR, IP-X2, IPC-AR, ULX, or WRC; 19 mm thick Types AR, IP-AR, IP-X3, ULTRACODE

NATIONAL GYPSUM CO — 12.7 mm thick Types FSW-C, FSK-C or 15.9 mm thick Type FSW, FSW-5, FSK-C

5. **Gypsum Sheathing** — For exterior walls, 12.7 mm or 15.9 mm thick Classified or unclassified exterior gypsum sheathing applied vertically and attached to studs and runner tracks with 25 mm long Type S-12 bugle head screws spaced 305 mm OC, along studs and tracks. One of the following exterior facings is to be applied over the gypsum sheathing.

A. **Siding, Brick or Stucco** — Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min 95 mm thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on either

face. Brick veneer wall attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

B. Fiber-Cement Siding — Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

C. Wood Structural Panel or Lap Siding — Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

6. Fasteners — (Not Shown) — Screws used to attach wallboard to studs: self-tapping bugle head sheet steel type, spaced 305 mm O.C. First layer Type S-12 by 25 mm long for 12.7 mm and 15.9 mm thick wallboards and 32 mm long for 19 mm thick wallboard. Second layer Type S-12 by 42 mm long for 12.7 mm and 15.9 mm thick wallboards and 57 mm long for 19 mm thick wallboard. Third layer Type S-12 by 47 mm long.

7. Batts and Blankets — Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the ULC Classification Marking as to Fire Resistance, of a thickness to completely fill stud cavity.

See **Batts and Blankets** (BZJZC) Category for names of Classified companies.

8. Joint Tape and Compound — (Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 50 mm wide, embedded in first layer of compound over all joints of outer layer.

9. Furring Channels — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 0.45 mm (25 MSG) corrosion-protected steel, spaced vertically a max of 610 mm OC. Flange portion attached to each intersecting stud with 12.7 mm long Type S-12 steel screws.

10. Wall and Partition Facings and Accessories — (Optional, Not Shown) — For use with Item 1, Item 2, Item 3, Item 4, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4), install Reflexor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 305 mm on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 50 mm. When Reflexor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 except the fastener length shall be increased by a minimum of 16 mm. Install Batts and Blankets in the stud cavity as per Item 7. On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels, min 0.45 mm (25 MSG), spaced vertically 610 mm OC, flange portion screw attached to one side of studs with 32 mm long diamond shaped point, double lead Phillips head steel screws. Over the Resilient Channels install 19 mm thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 406 mm OC on the perimeter of the panel and 204 mm OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 with the fastener length increased by minimum 19 mm. Not evaluated or intended as a substitute for the required layer(s) of ULC Classified Gypsum Board.

MSL — Reflexor membrane, SONOpan panel

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