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RESEARCH REPORT: RR 25163  
(CSI # 09260)

Expires: April 1, 2021  
Issued Date: March 1, 2019  
Code: 2017 LABC

**GENERAL APPROVAL** – Renewal and Clerical Modification - USG Corporation - Fire Resistive Non-Bearing Partitions and Non-Bearing Shaft Wall, Noncombustible Wall Assemblies Fire-Rated one and two hours.

## DETAILS

### I. 1 & 2 - Hour Partitions

#### A. General Details for 1-Hour Partition - STC 51 Rated (Figure 1)

1. **Floor & Ceiling Runner** - 25 MSG (min.) galv. steel 1 in. high, return legs 3-5/8 in. wide (min.), attached to floor and ceiling with power driven fasteners at 24 in. o.c. max. The power driven fastener shall have a current Los Angeles research report number.
2. **Steel Studs** – 3-5/8 in. wide (min.), 1-5/16 in. legs, 3/8 in. return, formed of 25 MSG (min.) galv. steel, maximum stud spacing 24 in. o.c.
3. **Wallboard, Gypsum** – 5/8 in. thick, 4 ft. wide, attached to steel studs and floor and ceiling runner with 1 in. long type S steel screws spaced 8 in. o.c. along edges of board and 12 in. o.c. in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. The gypsum wallboard shall be designated as Sheetrock® Brand Firecode® Core Gypsum Panels.
4. **Joint Tape** - All joints shall be filled with Sheetrock® Brand joint compound, covered with Sheetrock® Brand joint tape and then covered with additional joint compound. Screw heads shall be covered with joint compound as well.

RR 25163  
Page 1 of 5

5. **Batts and Blankets** - required for sound rating only. Nominal 3 in. (min.) thick mineral wool batts 25-in. wide are cut down the middle (creased) 1 in. Batts and blankets are designated as - 3in THERMAFIBER SAFB 25in wide.
- B. General Details for 2-Hour Shaftwall - STC 52 Rated (Figure 2)
1. **Side, Floor and Ceiling Runners** - "J"-shaped, 4 in. wide with unequal legs of 1 in. and 2 in., fabricated from minimum 24 ga. MSG galv. steel, runners positioned with short leg toward finished side of wall. Runner attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. o.c. Runners are designated as - USG® J-Runners.
  2. **Steel Studs** - "C-H"-shaped, (min.) 4 in. wide by 1½ in. deep, fabricated from 25 (min.) MSG galv. steel. Cut to length d to ½ in. less than floor-to-ceiling height and spaced at 24 in. studs secured to floor and ceiling runners with steel screws. Studs are designated as - USG® C-H Studs or E Studs.
  3. **Steel Studs** - (not shown) - "E"-shaped studs installed in place of "C-H"- shaped studs (item 2) around fire rated openings. Fabricated from 25 (min.) MSG galv. steel, 4 in. wide, with one leg 1 in. long and two legs ¾ in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths d in. less than floor to ceiling height. Sill and lintel of opening are formed with "J"-shaped runners (item 1) secured to "E"- shaped studs with angle clips and steel screws.
  4. **Batts and Blankets** - Nominal 3 in. thick mineral wool batts friction - fitted to completely fill the stud cavities. Batts and Blankets are designated as - 3in. Thermafiber® SAFB.
  5. **Wallboard, Gypsum** - 1 in thick gypsum liner panels, supplied in nominal 24 in. widths. Panels cut 1 in. less in length than floor-to-ceiling height. Vertical edges inserted in "H"-shaped section "C-H" studs. Free edge of end panels attached to long leg of "J"-runners with 1-5/8 in. long type S self-drilling, self-tapping bugle head steel screws spaced not greater than 12 in. o.c. Wallboard shall be - 1in Sheetrock® Brand Gypsum Liner Panels.
  6. **Wallboard, Gypsum** - ¾ in. thick, 4 ft. wide, applied vertically and secured with 1¼ in. long type S self-drilling, self-tapping steel screws spaced 8 in. o.c. along the perimeter and 12 in. o.c. in the field. Screws alongside joint shall be offset 4 in. wallboard shall be - ¾ in Sheetrock® Brand Ultracode® Core Gypsum Panels.
  7. **Joint Tape & Compound** - For use with type Ultracode® gypsum panels - joints shall be filled with Sheetrock® Brand joint compound, covered with Sheetrock® Brand joint tape and then covered with additional joint compound screw heads shall be covered with joint compound as well.
- II. 2-Hour Partition and Curtain Wall, Items A1-5 shall pertain to partition wall. Items B1-6 shall pertain to curtain wall.

A. General Details for 2-hour Partition. (Figure 3)

1. **Floor and Ceiling Runner** - Channel shaped, fabricated from min. No. 25 MSG galv. steel, 1 in. deep and minimum width of 3½ in. Attached to floor and ceiling with power driven fasteners at 24 in. o.c.
2. **Steel Studs** - Channel shaped min. 3½ in. wide by 1¼ in. deep with ¼ in. folded back return flange legs. Fabricated from min. No. 25 MSG galv. steel. Maximum stud spacing 24 in. o.c. studs secured to floor and ceiling runners with steel screws.
3. **Batts and Blankets** - Nominal 3 in. (min.) thick mineral wool batts, friction-fitted to completely fill the stud cavities. Batts and Blankets are designated as - 3in. Thermafiber SAFB.
4. **Wallboard, Gypsum** - ¾ in. thick, 4 ft. wide. One layer of wallboard to be applied vertically on each side with joints centered over studs and staggered on opposite sides of studs. Wallboard secured with 1¼ in. long type S self-drilling, self-tapping steel screws spaced 8 in. o.c. along the perimeter and 12 in. o.c. in the field. Screws alongside joints offset 4 in. Wallboard shall be - ¾in Sheetrock® Brand Ultracode® Core Gypsum Panels.
5. **Joint Tape** - All joints shall be filled with joint compound, covered with paper or mesh tape and then covered with additional joint compound. Screw-heads shall be covered with joint compound. Tape and joint compounds shall be designated as - Sheetrock® Brand joint compound - Sheetrock® Brand joint tape.

B. General Details for 2-Hour Exterior Non-Bearing Curtain Wall. (Figure 4)

1. **Stucco** – One-inch portland cement stucco over 3.4 lb./yd<sup>2</sup> self-furring metal lath attached with 1¼in type S-12 screws at 8in o.c. to studs.
2. **Sheathing** – ½ in Securock® Brand Glass-mat Sheathing or Sheetrock® Brand Gypsum Sheathing applied horizontally with 1in type S-12 screws at 24in o.c. - vertical joints staggered 48in o.c.
3. **Metal studs** shall be a minimum 3-5/8in and a minimum 20 ga. at a maximum 16in o.c.
4. **Batts and Blankets** - Nominal 3 in. (min.) thick mineral wood batts, friction-fitted to completely fill the stud cavities. Batts and Blankets shall be designated as - 3in Thermafiber® SAFB or 3in Thermafiber FS-15 or FS-2.
5. **Wallboard Gypsum** - (interior) 5/8 in. thick 4 ft. wide with taped longitudinal edges. The wallboard shall be installed vertically with the edges centered over the studs. Wallboard is to be secured with 1 in. type S-12 self-drilling, self-tapping screws. The screws shall be spaced at 8 in. o.c. at edges and 12 in o.c. in the field. The wallboard be designated as - Sheetrock® Brand Firecode® Core Gypsum Panels.

6. **Joint Tape** - Joints shall be filled with joint compound with paper or mesh tape and then covered with additional joint compound. Screw heads shall be covered with joint compound. Tape and joint compound shall be designated as - Sheetrock® Brand joint compound - Sheetrock® Brand joint tape.

### III. 4-Hour Partition

#### A. General Details for 4-Hour Partition with STC 56 (Figure 5)

1. **Floor and Ceiling Runner** - 25 MSG (min.) galv. steel 1½ in. deep and 2½ in. wide. Attached to floor and ceiling with power driven fasteners spaced at 24in o.c. The power driven fastener shall have a current Los Angeles research report number.
2. **Steel Studs** - Channel shaped, min. 2½ in. wide by 1¼ in. deep with ¼ folded return flange legs. Fabricated from 25 MSG (min.) galv. steel. Maximum stud spacing 24 in. o.c. studs to be cut ¾ in. less than assembly height. Steel studs may be friction-fitted into floor and ceiling runners.
3. **Batts and Blankets** - Nominal 2 in. (min.) thick mineral wood batts, friction-fitted to completely fill the stud cavities. Batts and Blankets shall be designated as - 2in. Thermafiber® SAFB.
4. **Wallboard Gypsum** - ¾ in. thick, 4 ft. wide. Two layers of wallboard to be applied to each side of steel studs. Inner layers to be applied vertically with joints centered over the studs and staggered on opposite sides of the studs. Outer layers to be applied horizontally with vertical butt joints staggered from inner layer joints or vertically with joints centered over studs and staggered on opposite sides of studs. Inner layer shall be secured with 1¼ in. long type S self-drilling, self-tapping steel screws spaced at 24 in. o.c. along with the perimeter and in the field. Outer layer, when secured horizontally, shall be secured with 2¼ in. long type S self-drilling, self-tapping steel screws spaced 24 in. o.c. along the perimeter and in the field. Along the horizontal joints of the outer layer, 1½ long type G self-drilling, self-tapping steel screws to be applied midway between the studs, 24 in. o.c., and 1 in. from the longitudinal joint. Outer layer, when secured vertically, shall be secured with 2¼ inch. long type S self-drilling, self-tapping steel screws spaced 24 in. o.c. along the perimeter and in the field. The gypsum wallboard shall be - ¾in Sheetrock® Brand Ultracode® Core Gypsum Panels.
5. **Joint Tape and Compound** - Outer layer joints shall be covered with joint compound and paper or mesh tape. Screw heads shall be covered with joint compound. Tape and joint compound shall be designated as – Sheetrock® Brand joint compound - Sheetrock® Brand joint tape.

United States Gypsum Company  
Re: Fire Resistive Non-Bearing Partitions and Non-Bearing Shaft Wall

## **DISCUSSION**

The clerical modification is to update contact information.

The report is in compliance with the 2017 City of Los Angeles Building Code.

The approval is based on tests per ASTM E119 (The Consulting Engineers Group, Incorporated reports of February, 1982, and Warnock Hershey International, Incorporated report of November 14 and 30, 1983).

The fire ratings are established from tests by an approved testing agency according to ASTM E119 as required by Chapter 7 of 2017 City of Los Angeles Building Code.

The partition height shall be established by tests and calculations. The metal studs shall have a current Los Angeles research report number or a standard plan approved by Los Angeles Building and Safety Structural Plan Check. Steel studs require engineering calculations by a California registered civil, structural engineer, or architect and bear his/her signature.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

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