

CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Pursuant to Administrative Code Section 27-131, the following equipment or materials has been found for use in accordance with the Report of the Material and Acceptance (MEA) Division.

Patricia J. Lancaster, Commissioner

MEA 309-03-M

Report of Material and Equipment Acceptance Division

Manufacturer - United States Gypsum Company, 125 S. Franklin St. 60606.

Trade Name - SHEETROCK® Brand Gypsum Liner Panel-Enhanced, UL Type SLX; SHEETROCK® Brand Gypsum Liner Panel, UL Type SLX; SHEETROCK® Brand Abuse-Resistant Gypsum Panels, UL Type AR; SHEETROCK® Brand Gypsum Panels, FIRECODE C Core, UL Type C; SHEETROCK® Brand Gypsum Panels, FIRECODE Core, UL Type SCX; SHEETROCK® Brand Gypsum Panels, HUMITEK Firecode Core, UL Type SCX; SHEETROCK® Brand Gypsum Sheathing, FIRECODE Core, UL Type SHX; SHEETROCK® Brand Gypsum Panels, FIRECODE Core, Water-Resistant, UL Type WRX; SHEETROCK® Brand Gypsum Panel, FIRECODE C Core, Water Resistant, UL Type WRC; FIBEROCK® Brand Sheathing and FIBEROCK® Brand Panels- Water-Resistant, UL Type FRX-G; IMPERIAL® Brand Plaster Base Abuse Resistant Panel, UL Type IP-AR; IMPERIAL® Brand Plaster Base (Type X), UL Type IP-X1; IMPERIAL® Brand Plaster Base (Type C), UL Type IP-X2; IMPERIAL® Brand Plaster Base Abuse Resistant FIRECODE "C" Core, UL Type IPC-AR; IMPERIAL® Brand Plaster Base, ULTRACODE Core, UL Type IP-X3; SHEETROCK® Brand Gypsum Panel, ULTRACODE Core, UL Type ULTRACODE; SHEETROCK® Brand Gypsum Sheathing, ULTRACODE Core, UL Type ULTRACODE SHC; SHEETROCK® Brand Gypsum Panels Water Resistant, ULTRACODE Core, UL Type WRC.

Product- Fire Rated Gypsum Panels

Pertinent Code Section – 27-131, 27-323.

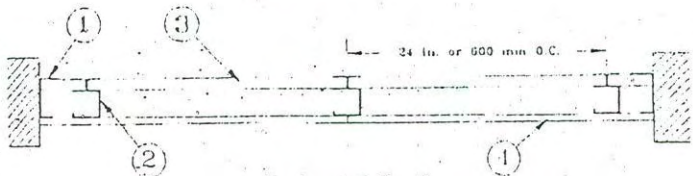
Prescribed Test – RS 5-2 (ASTM E-119)

Laboratories – Underwrites Laboratory

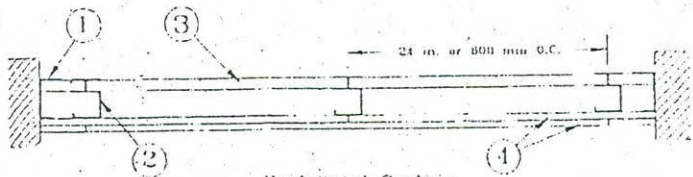
Test Reports–UL Project 96NK8744 dated March 27, 1996; UL Project 96BK8744 dated April 29, 1996; UL Project 96NK17458 dated June 7, 1996; UL Project 97NK33240 dated November 13, 1997; UL Project 97NK38733 dated November 21, 1997; UL Project 98NK41379 dated November 20, 1998; UL Project 99NK17857 dated May 5, 1999; UL Project 99NK34685 dated September 14, 1999; UL Project 00NK46531 dated November 21, 2000; UL Project 01NK13527 dated March 20, 2001

Description –Non Load bearing USG Shaftwalls 1, 2, 3, and 4, hour fire rated designs. See Underwriters Fire Resistance Directory, Design U415 for construction details specific to each hourly rating. USG SHAFTWALLS are designed to enclose and protect elevator shafts, stairwells, and other vertical shafts.

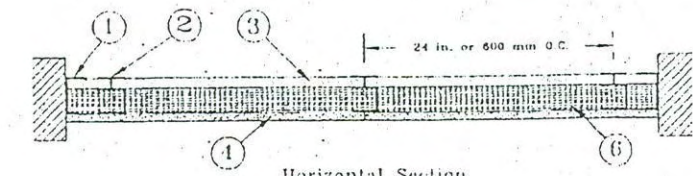
Design No. U415
 Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr.
 System A — 1 Hr.



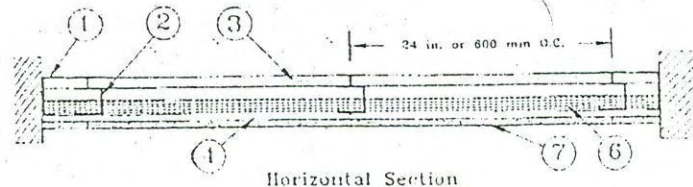
Horizontal Section
 System B — 2 Hr.



Horizontal Section
 System C — 2 Hr.



Horizontal Section
 System D — 2 Hr.

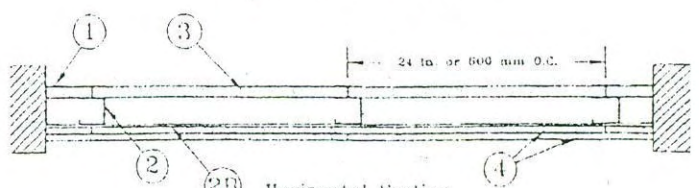


System E — 2 Hr.



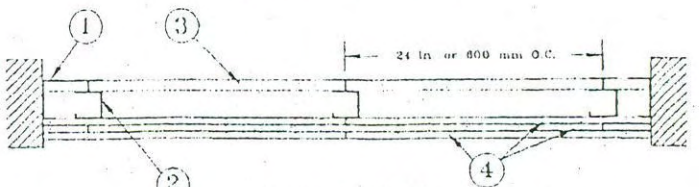
Horizontal Section

System F — 2 Hr.



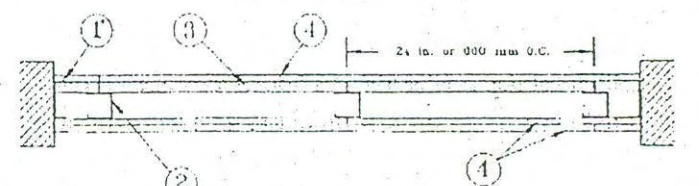
Horizontal Section

System G — 3 Hr.



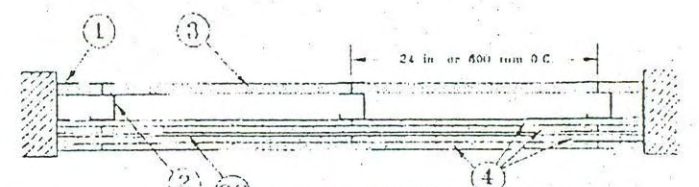
Horizontal Section

System H — 3 Hr.



Horizontal Section

System I — 4 Hr.



Horizontal Section

1. Floor, Side and Ceiling Runners — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.
2. Steel Studs — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Item 4A or 7 are used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC.
- 2A. Steel Studs — (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" - shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 4A or 7 are used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling heights.
- 2B. Furring Channels — (Optional, not shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner

panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX or FRX-G gypsum wallboard (Item 4A) or cementitious backer units (Item 7).

2C. **Furring Channels** — For use with System I - "Flat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.

3. **Gypsum Board*** — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor-to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "I" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min. 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

CANADIAN GYPSUM COMPANY — Type SLX
UNITED STATES GYPSUM CO — Type SLX
USG MEXICO S A DE C V — Type SLX

4. **Gypsum Board*** —

System A - 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

System B - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.

CANADIAN GYPSUM COMPANY — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

System C - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3. Requires min 3 in. thick mineral wool batts per Item 6.

CANADIAN GYPSUM COMPANY — Types IP-X3, ULTRACODE, ULTRACODE SHC, ULTRACODE WRC.
UNITED STATES GYPSUM CO — Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.
USG MEXICO S A DE C V — Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

System D - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face

layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in. thick mineral wool batts per Item 6.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

System E - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.

CANADIAN GYPSUM COMPANY — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

System F - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. Outer or face layer attached to resilient furring channels (Item 2B) with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.

CANADIAN GYPSUM COMPANY — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
USG MEXICO S A DE C V — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

System G - 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR, WRC
UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System H - 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR, WRC
UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System I - 4 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second

(inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

CANADIAN GYPSUM COMPANY — Types IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC
UNITED STATES GYPSUM CO — Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.
USG MEXICO S A D E C V — Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

- 4A. Gypsum Board* — (As an alternate to Item 4, System A, B, D, E) — 5/8 in. thick gypsum panels, with tapered edges, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 4.

CANADIAN GYPSUM COMPANY — Type FRX
UNITED STATES GYPSUM CO — Type FRX

5. Joint Tape and Compound — (Not Shown)
Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. Batts and Blankets* —
Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

— THERMAFIBER L L C — Type SAFB

7. Cementitious Backer Units* — (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced n. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints.

UNITED STATES GYPSUM CO — DUROCK Exterior Cement Board or DUROCK Brand Cement Board.

8. Laminating Adhesive* — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

*Bearing the UL Classification Mark

Recommendation: That the above described non-load bearing USG SHAFTWALL designs U415 be accepted as having the fire resistance ratings as indicated when used where combustible or noncombustible construction as required in accordance with the Building Code. This acceptance does not include structural adequacy of wall design, which must be checked for particular structure for compliance with Building Code. All shipments and deliveries of such material shall be provided with a certificate or label certifying that the material shipped or delivered are equivalent to that tested and acceptable for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance DEC/30/03

Examined by S. Deekhedar