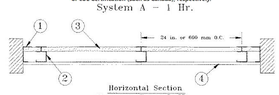
city of CINCINNATI BUILDINGS & INSPECTIONS
APPROVED
CIN BD
2022P10005
03/22/23

UL:415

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System A — 1 Hr.

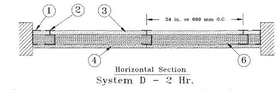


Horizontal Section

System B — 2 Hr.

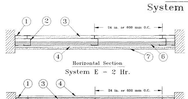
Horizontal Section

System C — 2 Hr.



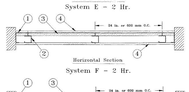
Horizontal Section

System D — 2 Hr.



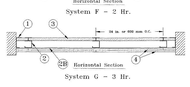
Horizontal Section

System E — 2 Hr.



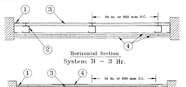
Horizontal Section

System F — 2 Hr.



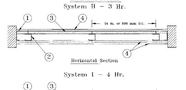
Horizontal Section

System G — 3 Hr.



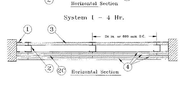
Horizontal Section

System H — 3 Hr.



Horizontal Section

System I — 4 Hr.



Horizontal Section

1. **Floor, Side and Ceiling Runners —** "I" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG galv steel (min 20 MSG when Items 2D, 2H, 4A, 4B, 4C, 4D or 7 are used) gage 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 "I" - 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 steel (min 20 MSG when Items 2D, 2H, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 5/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

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 steel (Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep when 4 in. deep when System C is used). Cut to lengths 5/8 to 1/2 in. less than floor to ceiling height. Where single 1 hr, rated fire-resistive framing is required, wire tie studs to runners at top and bottom of wall. Studs may be installed with open ends facing up or down, or with alternate studs facing up and down. Studs may be installed in either vertical or horizontal position (with the long leg of the studs parallel to the long leg of the runners) at spacings not exceeding that permitted in the individual fire-resistive design being used. Studs may be cut to length or may be telescoped for shaft wall assemblies. Studs may be installed with knockouts aligned or with knockouts omitted.

2C. **Furring Channels —** Optional, Not Shown — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. 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 that it is. Web panels with 1/2 in. long Type S or S-12 pan head steel screws. Where furring channels are used, wallboard to be installed vertically only. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

2D. **Furring Channels —** For use with System "I" "Hat" - shaped, 25 MSG galv steel furring channels attached directly to studs with 1 in. long Type S steel screws spaced 24 in. OC. Furring channels formed with 1-1/2 in. wide flanges and 7/8 in. deep channel with two flanges to bottom flange at each short intersection. Furring channels spaced vertically max 24 in. OC.

2E. **Steel Framing Members* —** Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/4 in. wide by 7/8 in. deep, spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screws through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screw through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

2F. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 5. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Clips (Item 2F) attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs. Clips spaced 24 in. OC, and secured to studs with 2 in. coarse drywall screw with 7 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — REGUMOUNT Sound Isolation Clips — Type AGTR

2F. **Steel Framing Members* —** (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/4 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screw through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

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 of panels 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" - shaped runner. Panels held 1/2 in. from floor to allow for deflection. Where single 1 hr, rated fire-resistive framing is required, liner panel length, liner panel length of the outer layer, is butted to extend to the length of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 24 in. Butt joints backed with 6 in. wide pieces of 25 MSG galv steel, attached to each stud with 1/2 in. long Type S steel screws, three screws along the 22 in. dimension at the top and bottom of each piece.
CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX

USG BORAL DRYWALL SFZ LLC — 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 bugle head steel screws spaced 12 in. when installed vertically or 8 in. when installed horizontally. Wallboard secured to studs with 1-1/4 in. long Type S bugle head steel screws spaced 12 in. OC and staggered 6 in. from face layer screws.
CGC INC — Types IP-AX, IP-X, IP-XT, IP-XR, IP-AR, SCX, SHX, ULIX, ULGIX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C and SCX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SLX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

System A — 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 to studs with 1 in. long Type S bugle head steel screws spaced 12 in. when installed vertically or 8 in. when installed horizontally. Wallboard secured to studs with 1-1/4 in. long Type S bugle head steel screws spaced 12 in. OC and staggered 6 in. from face layer screws or 8 in. OC when installed horizontally and staggered 8 in. from face layer screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Type C SCX.

USG MEXICO S A DE C V — 1/2 in. Types C, IP-AX, IP-X, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

System C — 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, secured with 1-1/4 in. long Type S bugle head steel screws spaced 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Wallboard secured to studs with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC. Requires min 4 in. deep framing (as Items 2, 2A and 2I). Require min 3 in. thick mineral wool batts (as Item 2I).
CGC INC — Types IP-AX or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-AX or ULTRACODE

USG BORAL DRYWALL SFZ LLC — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-AX or ULTRACODE

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 two layers of 1/2 or 5/8 in. thick gypsum board. See Gypsum Board Products Table and Item 2I.
CGC INC — Types IP-AX, IP-X, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C, IP-AX, IP-X, IP-XC, SCX, SHX, ULIX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SLX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

System E — 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 to studs with Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Wallboard secured to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 6 in. from face layer screws or 8 in. OC when installed horizontally and staggered 8 in. from face layer screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Type C SCX.

USG MEXICO S A DE C V — 1/2 in. Types C, IP-AX, IP-X, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

System F — 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 to studs with 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. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — Types IP-AX, IP-X, IP-XC, IPC-AR, ULIX, WRC

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Type C

UNITED STATES GYPSUM CO — Types C, IP-AX, IP-XC, IPC-AR, ULIX, WRC

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-AX, IP-XC, IPC-AR, ULIX, WRC

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, secured with 1-1/4 in. long Type S bugle head steel screws spaced 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Wallboard secured to studs with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — Types IP-AX, IP-X, IP-XC, IPC-AR, ULIX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C, IP-AX, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SLX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

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, attached to studs with Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Wallboard secured to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 6 in. from face layer screws or 8 in. OC when installed horizontally and staggered 8 in. from face layer screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Type C SCX.

USG MEXICO S A DE C V — 1/2 in. Types C, IP-AX, IP-X, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

5. **Laminating Adhesive*** — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layer of Gypsum Board (Item 4) in System D. Add 1/32 in. (1mm) adhesive applied at 10 lb. square inch/sheet. See Adhesives (BHMR) in the Fire Resistance Directory or Adhesives (BJLQ) in the Building Materials Directory for names of manufacturers.

6. **Load Bearing Strips —** (Not Shown, For Use With Item 4A) — Load bearing strips, min 1-1/2 in. wide, min 18 ft long with a max thickness of 0.14 in. Strips placed on the interior face of studs and attached to the stud with two min. 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Load bearing strips to have a purity of 99.9% meeting the Federal specification QQ-L-201 Grade "C". Load bearing strips required behind vertical joints of load bearing gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

7A. **Load Bearing Strips —** (Not Shown, For Use With Item 4A) — Load bearing strips, 2 in. wide, min 10 ft long with a max thickness of 0.14 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long, Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min, Type S-8 pan head steel screw at the top of the strip. Load bearing strips to have a purity of 99.9% meeting the Federal specification QQ-L-201 Grade "C". Load bearing strips required behind vertical joints of load bearing gypsum wallboard (Item 4A) and optional at remaining stud locations.

7B. **Load Bearing Strips —** (Not Shown, For Use With Item 4A) — Load bearing strips, 2 in. wide, min 10 ft long with a max thickness of 0.142 in. Tabs 1/2in H shown from face of stud, the stud folded back flange and the back face of the stud. Tabs spaced max 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Strips placed on the face of studs and attached to the stud with two min. 1 in. long, Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min, Type S-8 pan head steel screw at the top of the strip. Load bearing strips to have a purity of 99.9% meeting the Federal specification QQ-L-201 Grade "C". Load bearing strips required behind vertical joints of load bearing gypsum wallboard (Item 4A) and optional at remaining stud locations.

8. **Lead Tabs —** (Not Shown, For Use With Item 4B) — 2 in. wide, 3 in. long with a max thickness of 0.142 in. Tabs 1/2in H shown from face of stud, the stud folded back flange and the back face of the stud. Tabs spaced max 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Strips placed on the face of studs and attached to the stud with two min. 1 in. long, Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min, Type S-8 pan head steel screw at the top of the strip. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201 Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

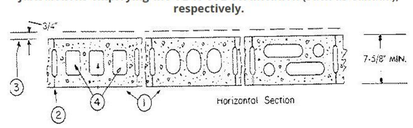
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

UL: 905

Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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



1. **Concrete Blocks* —** Various designs. Classification D-2 (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar —** Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster —** Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. **Loose Masonry Fill —** If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. **Foamed Plastic* —** (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE

DUPONT DE NEMOURS, INC. — Types Thermax Sheathing. Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types "Xci-Class A", "Xci Foil (Class A)", "Xci 286"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"

5A. **Building Units* —** As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"

5B. **Fiber, Sprayed* —** As an alternate to Items 5, min. 1-in thick "Accella-Cl", "EcoBASci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".

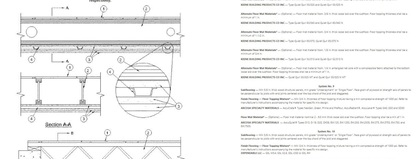
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

UL: 263

Unrestrained Assembly Rating — 2 Hr.
Finish Rating — More Than 30 Min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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



1. **Floor, Side and Ceiling Runners —** "I" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG galv steel (min 20 MSG when Items 2D, 2H, 4A, 4B, 4C, 4D or 7 are used) gage 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 "I" - 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 steel (min 20 MSG when Items 2D, 2H, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 5/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

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 steel (Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used). Cut to lengths 5/8 to 1/2 in. less than floor to ceiling height. Where single 1 hr, rated fire-resistive framing is required, wire tie studs to runners at top and bottom of wall. Studs may be installed with open ends facing up or down, or with alternate studs facing up and down. Studs may be installed in either vertical or horizontal position (with the long leg of the studs parallel to the long leg of the runners) at spacings not exceeding that permitted in the individual fire-resistive design being used. Studs may be cut to length or may be telescoped for shaft wall assemblies. Studs may be installed with knockouts aligned or with knockouts omitted.

2C. **Furring Channels —** For use with System "I" "Hat" - shaped, 25 MSG galv steel furring channels attached directly to studs with 1 in. long Type S steel screws spaced 24 in. OC. Furring channels formed with 1-1/2 in. wide flanges and 7/8 in. deep channel with two flanges to bottom flange at each short intersection. Furring channels spaced vertically max 24 in. OC.

2E. **Steel Framing Members* —** (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/4 in. wide by 7/8 in. deep, spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screw through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screw through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

2F. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 5. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Clips (Item 2F) attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs. Clips spaced 24 in. OC, and secured to studs with 2 in. coarse drywall screw with 7 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — REGUMOUNT Sound Isolation Clips — Type AGTR

2F. **Steel Framing Members* —** (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type RW-G gypsum board. Not backed gypsum boards (Items 4A-4D) or cementitious backer units (Item 7).

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/4 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2D) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5/16 head screw through the center gridmark. Furring channels are friction fitted into clips 15/16 in.dip for use with 2-5/8 in. wide furring channels. 25/20 mil galvanized steel clips (Item 2F) are attached to Item 5. Gypsum board installed vertically only and attached to furring channels as described in Item 5.

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 of panels 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" - shaped runner. Panels held 1/2 in. from floor to allow for deflection. Where single 1 hr, rated fire-resistive framing is required, liner panel length, liner panel length of the outer layer, is butted to extend to the length of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 24 in. Butt joints backed with 6 in. wide pieces of 25 MSG galv steel, attached to each stud with 1/2 in. long Type S steel screws, three screws along the 22 in. dimension at the top and bottom of each piece.
CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX

USG BORAL DRYWALL SFZ LLC — 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 bugle head steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Wallboard secured to studs with 1-1/4 in. long Type S bugle head steel screws spaced 12 in. OC and staggered 6 in. from face layer screws or 8 in. OC when installed horizontally and staggered 8 in. from face layer screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-AX, IP-X, IP-XC, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Type C SCX.

USG MEXICO S A DE C V — 1/2 in. Types C, IP-AX, IP-X, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

System B — 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 to studs with Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Wallboard secured to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 6 in. from face layer screws or 8 in. OC when installed horizontally and staggered 8 in. from face layer screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud. Horizontal joints over studs and staggered 24 in. on adjacent layers.
CGC INC — Types C, IP-AX, IP-X, IP-XC, IPC-AR, ULIX, WRC

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Type C

UNITED STATES GYPSUM CO — Types C, IP-AX, IP-XC, IPC-AR, ULIX, WRC

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-AX, IP-XC, IPC-AR, ULIX, WRC

System C — 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 two layers of 1/2 or 5/8 in. thick gypsum board. See Gypsum Board Products Table and Item 2I.
CGC INC — Types IP-AX, IP-X, IP-XC, IPC-AR, SCX, SHX, ULIX, USGX, WRC, WRX

THE DAM GYPSUM INDUSTRY (DONGHUA) CO — Types C,