UL ASSEMBLIES

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A-ZIDEN A-NOTE A-NAME A-PATT A-GRID A-GRAP A-EXST
G3.01 G3.01 BLK

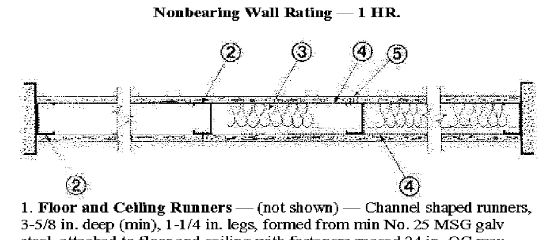
ONE HOUR FIRE PARTITION

ONE HOUR FIRE / SMOKE PARTITION

Design No. U465

November 17, 2010

Nonbearing Wall Rating — 1 HR.



1. **Floor and Ceiling Runners** — (not shown) — Channel shaped runners, 3-5/8 in. deep (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1A. **Framing Members*— Floor and Ceiling Runners** — (Not shown) — As an alternate to Item 1 - Channel shaped, min 3-5/8 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP,

BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1B. **Framing Members* - Floor and Ceiling Runners** — Not shown - In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CRACO MFG INC — SmarterTrack20™, SmartTrack20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20S™ Track, Viper20D™ Track

1C. **Floor and Ceiling Runners** — (Not shown)—For use with Item 2C- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. **Framing Members*— Floor and Ceiling Runners** — Not shown - In lieu of Items 1 through 1C — For use with Item 2D and 4G only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CLARKWESTERN BUILDING SYSTEMS INC — CW ProTRAK

DIETRICH INDUSTRIES INC — DIETRICH ProTRAK

DMFCWBS L L C — ProTRAK

1E. **Framing Members*— Floor and Ceiling Runners** — Not shown - In lieu of Items 1 through 1D — For use with Item 2E and 4I only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

2. **Steel Studs** — Channel shaped, 3-5/8 in. deep (min), formed from min No. 25 MSG galv steel spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members*— Steel Studs** — As an alternate to Item 2 - Channel shaped studs, min 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP,

BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2B. **Framing Members* - Steel Studs** — Not shown - In lieu of Item 2 — For use with Item 1B, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

CRACO MFG INC — SmarterStud20™, SmartStud20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20S™, Viper20D™

2C. **Steel Studs** — (As an alternate to Item 2, For use with Item 4E) Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. **Framing Members*— Steel Studs** — As an alternate to Items 2 through 2C- For use with Item 1D and 4G only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

CLARKWESTERN BUILDING SYSTEMS INC — CW ProSTUD

DIETRICH INDUSTRIES INC — DIETRICH ProSTUD

DMFCWBS L L C — ProSTUD

2E. **Framing Members*— Steel Studs** — As an alternate to Items 2 through 2D- For use with Item 1E and 4I only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

3. **Batts and Blankets*** — (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.

See **Batts and Blankets** (BZJZ) category for names of Classified companies.

3A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft³. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft³.

U S GREENFIBER L L C — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

3B. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) and Item 3A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

3C. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

4. **Gypsum Board*** — 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to item 6 (resilient channels) or 6A (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

AMERICAN GYPSUM CO — Types AG-C, AGX-1

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

CERTAINTEED GYPSUM INC — Types 1, EGRG, GlasRoc, ProRoc Type X, ProRoc Type C, SilentFX.

CERTAINTEED GYPSUM CANADA INC — ProRoc Type C, ProRoc Type X, ProRoc Type Abuse-Resistant.

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6.

LAFARGE NORTH AMERICA INC — Types LGFC2, LGFC2A, LGFC6, LGFC6A, LGFC-C, LGFC-C/A, LGFC-WD.

NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6.

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA

PABCO GYPSUM — Type PG-C, PG-11 or PG-9.

PANEL REY S A — Types PRX, RHX, MDX, ETX.

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

TEMPLE-INLAND — Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board.

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX).

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4A. **Gypsum Board*** — (As alternate to Item 4) - Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

CERTAINTEED GYPSUM INC — ProRoc Type X, ProRoc Type C.

CERTAINTEED GYPSUM CANADA INC — ProRoc Type X, ProRoc Type C.

GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DAPC, DGG, DS.

LAFARGE NORTH AMERICA INC — Type LGFC6A, LGFC-C/A

UNITED STATES GYPSUM CO — T ype AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, , USGX (Joint tape and compound, Item 5, optional for use with Type USGX).

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4B. **Gypsum Board*** — (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CANADIAN GYPSUM COMPANY — Types AR, IP-AR.

UNITED STATES GYPSUM CO — Types AR, IP-AR.

USG MEXICO S A DE C V — Types AR, IP-AR.

4C. **Gypsum Board*** — As an alternate to Items 4, 4A, and 4B - Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered or backed by steel framing.

TEMPLE-INLAND — GreenGlass Type X.

4D. **Gypsum Board*** — As an alternate to Items 4, 4A, 4B, and 4C - Nom. 5/8 in. thick gypsum panels applied horizontally. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Gypsum panels fastened to framing with 1 in. long Type S steel screws 1-1/2 in. from board edges, 3 in. from board edge and every 8 in. OC in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall.

NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSW-C, FSW-G, FSW.

4E. **Gypsum Board*** — (As an alternate to Items 4 through 4D) - Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 1 in. long, Type S steel screws spaced, 8 in. OC. Not to be used with item 6.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4G. **Gypsum Board*** — (As an alternate to Items 4 through 4F) — For use with Items 1C and 2C only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

NATIONAL GYPSUM CO — Types FSW

UNITED STATES GYPSUM CO — Type SCX

4H. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 4 through 4G) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

SERIOUS MATERIALS INC — Types QuietRock ES, QuietRock 527.

4I. **Gypsum Board*** — (As an alternate to Items 4 through 4F) — For use with Items 1E and 2E only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

UNITED STATES GYPSUM CO — Type SCX

5. **Joint Tape and Compound** — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. **Resilient Channel** — (Optional-Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May not be used with Item 4F.

6A. **Steel Framing Members (Not Shown)*** — As an alternate to Item 3, furring channels and resilient sound isolation clip as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Framing Members*** — Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips.

PAC INTERNATIONAL INC — Type RSIC-1.

6B. **Framing Members*** — Optional - Not Shown - Used as an alternate method to attach resilient channels (Item 6). Clips attached at each intersection of the resilient channel and the steel studs (Item 2). Resilient channels are friction fitted into clips, and then clips are secured to the stud with min. 1 in. long Type S-12 pan head steel screws through the center hole of the clip and the resilient channel flange.

KEENE BUILDING PRODUCTS CO INC — Type RC Assurance.

7. **Wall and Partition Facings and Accessories*** — (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

SERIOUS MATERIALS INC — Type QuietRock QR-510.

8. **Lead Batten Strips** — (Not Shown, For Use With Item 4E) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 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. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4E) - Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

*Bearing the UL Classification Mark

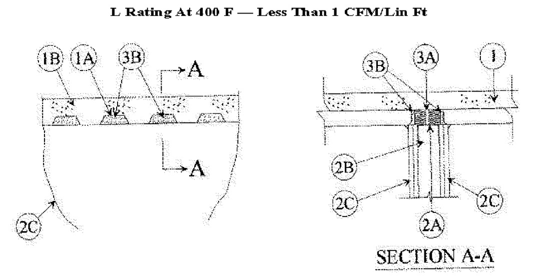
System No. HW-S-0028

August 03, 2001

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

L Rating At Ambient — Less Than 1 CFM/Lin Ft

L Rating At 400 F — Less Than 1 CFM/Lin Ft



1. **Floor Assembly** — The fire rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Form Units*** — Composite or noncomposite max 3 in. deep min 22 galv or phos/painted fluted units. Adjacent units button-punched or welded together max 36 in. OC along side joints.

B. **Normal Weight or Light Weight Concrete** — Min 2-1/2 in. thick concrete of the type, density and compressive strength detailed for the specific Floor-Ceiling Design described in the UL Fire Resistance Directory.

2. **Wall Assembly** — The 1 or 2 Hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Ceiling Runners** — Floor and ceiling runners of wall assembly shall consist of min 25 ga galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with min 1-1/4 in. flanges. Ceiling runner secured to valleys of steel floor units (Item 1A) with steel fasteners or by welds spaced max 24 in.OC.

B. **Studs** — Min 3-1/2 in. wide by 1-1/4 in. deep corrosion protected min 25 MSG steel channels. Steel stud spacing not to exceed 24 in. OC.

C. **Gypsum Board*** — 5/8 in. thick, 4 ft wide with square or tapered edges. Wallboard sheets installed vertically on both sides of stud framing with joints centered over studs. Wallboard to be butted tight to bottom of the steel deck. The gypsum wallboard type, thickness, number of layers and fastener types shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory.

3. **Joint System** — The joint system consists of a forming material and a fill material in the flutes of the steel floor units, as follows:

A. **Packing Material** — Min 3-3/4 in. thickness of min 4.0 pcf mineral wool batt insulation, compressed a min of 25 percent into flutes of the steel floor units between the top of the ceiling runner and bottom of the steel floor units, and recessed from each surface of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material*** — Min 3/8 in. thickness of fill material installed on each side of the wall in the flutes of the steel floor units. An additional min 3/8 in. bead of fill material to be installed at the wallboard/steel deck interface.

3M COMPANY — FB-1000 NS

*Bearing the UL Classification Mark

STATE OF GEORGIA
WILLIE O. STOKES
CERTIFICATE NO. 6490
REGISTERED ARCHITECT

SURGERY CENTER OF ATHENS
AT
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REVISION

NO.	DATE	DESCRIPTION

G3.01

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