BXUV.U451 - FIRE-RESISTANCE RATINGS - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances.

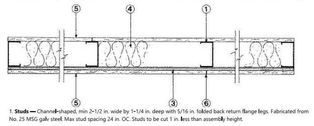
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U451

October 01, 2019

Nonbearing Wall Rating — 1 Hr.

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



1. **Studs —** Channel-shaped, min 2-1/2 in. wide by 1-1/4 in. deep with 5/16 in. folded back return flange legs. Fabricated from No. 25 MSG galv steel. Max stud spacing 24 in. OC. Studs to be cut 1 in. less than assembly height.

1A. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2A, proprietary channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel. Max stud spacing 24 in. OC. Studs cut 1 in. less in length than assembly height.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

1B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2B, channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

1C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel. Max stud spacing 24 in. OC. Studs cut 1 in. less in length than assembly height.
TELLING INDUSTRIES L L C — Viper20™

1D. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2D, channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

1E. **Framing Members* — Steel Studs —** As an alternate to Item 1 — For use with Item 2A (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

1F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2, channel shaped steel studs, 2-1/2 in. wide by min 1-1/4 in. deep fabricated from min No. 25 MSG galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.
EB METAL INC — METROSTUD
1G. **Framing Members* — Steel Studs —** As an alternate to Item 1 — For use with Item 2E, channel shaped, min 3-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

1H. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2F, channel shaped steel studs, 1-1/4 in. deep by min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 3/8 to 3/4 in. less in length than assembly height.
STEEL INVESTMENT GROUP L L C — AlphaSTUD

2. **Floor and Ceiling Runners —** (Not Shown) — Channel-shaped runners, min 2-1/2 in. wide by 1-1/4 in. deep, fabricated from No. 20 MSG galv steel. Attached to floor and ceiling with fasteners, 24 in. OC, max.

2A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 2 — For use with Item 1A, proprietary channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

2B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1B, channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

2C. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 2 — For use with Item 1C, proprietary channel shaped runners, 1-1/4 in. deep by min 2-1/2 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 — Viper20™ Track

2D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1D, channel shaped runners, 1-1/4 in. deep by min 2-1/2 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™

2E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 2 - For use with Item 1G. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC, max.
BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

2F. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1H, channel shaped runners, 1-1/4 in. deep by min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
STEEL INVESTMENT GROUP L L C — AlphaTRAK

3. **Resilient Channel —** 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.

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

a. **Furring Channels —** Formed of No. 25 MSG galv steel 2-9/16 in. or 2-23/32 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 5-/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

3B. **Framing Members* —** (Not Shown) — (Optional on one or both sides) — Alternate to Item 3, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs (Item 1) as described in Item b. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Ba) to studs (Item 1). Clips spaced max. 48 in. OC. GENIE CLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

3C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

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 b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

3D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

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 3Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
RESILIENT AMERICA — Type SonusClip

3E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Phillips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 3Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

4. **Batts and Blankets* —** Placed in stud cavity. 1-1/2 in. min thickness.
ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m³

THERMAFIBER INC — Type SAFB, SAFB FF

5. **Gypsum Board* —** 1/2 or 5/8 in. thick, 4 ft wide. Screw attached one side to resilient or furring channels with 1 in. long, Type S steel screws spaced 12 in. OC. Gypsum board on direct attached side secured to studs with 1 in. long Type S-12 steel screws spaced 12 in. Gypsum board joints oriented vertically, located over studs and offset between layers.
CAROT MANUFACTURING ULC — Type C

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — 1/2 in. or 5/8 in. Type C, 5/8 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Type AR, IP-AR, IP-X1 or SCX

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types S, C, DAP, DA, DAPC, TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSXR-C, FSXR-C
NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — 5/8 in. Type FR

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C or PG-C

PANEL REY S A — Types PRC, PRC2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Ax, Gyproc FireStop MR ACTIV'Ax, Gyproc FireStop M2TECH ACTIV'Ax, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Ax, Gyproc DuraLine MR ACTIV'Ax, Gyproc DuraLine M2TECH ACTIV'Ax

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Type AR, IP-AR, IP-X1, SCX or ULIX

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

USG MEXICO S A DE C V — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Type AR, IP-AR, IP-X1 or SCX

5A. **Gypsum Board* —** (As an alternate to Item 5) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 5 with screw length increased to 1-1/4 in.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

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

5B. **Gypsum Board* —** (As an alternate to Item 5, not for use with Items 18 and 28) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5.
CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

6. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 1/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

7. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS.

8. **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-500 or 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.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

9. **Barrier Mesh —** (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

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

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STATE OF MISSOURI
SAMUEL K. BECKMAN
A-2011012130
ARCHITECT

1/16/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

ACI BOLAND ARCHITECTS

ACI/Boland, Inc.
Kansas City | St. Louis

1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600

Licensee's Certificate of Authority Number:
Missouri: #000958

CIVIL CONSULTANT

BHC
7101 College Blvd, Suite 400
Overland Park, KS 66210
913.663.1900
Licensee's Certificate of Authority Number:
#001355

STRUCTURAL CONSULTANT

Structural Engineering Associates, Inc.
1000 Walnut, Suite 1570
Kansas City, MO 64108
816.842.8437
Licensee's Certificate of Authority Number:
#000396

MEP CONSULTANT

IMEG
1600 Baltimore Ave, Suite 300
Kansas City, MO 64108
816.842.8437
Licensee's Certificate of Authority Number:
#00127265

CONSTRUCTION DOCUMENTS

Saint Luke's
EAST HOSPITAL
ASC EXPANSION & RENOVATION
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03/10/2023
Job Number	3-21037
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
5	3-30-23	City Comments

CONSTRUCTION DOCUMENTS

A043

U.L. DESIGN ASSEMBLIES