



BXUV.U454 -

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

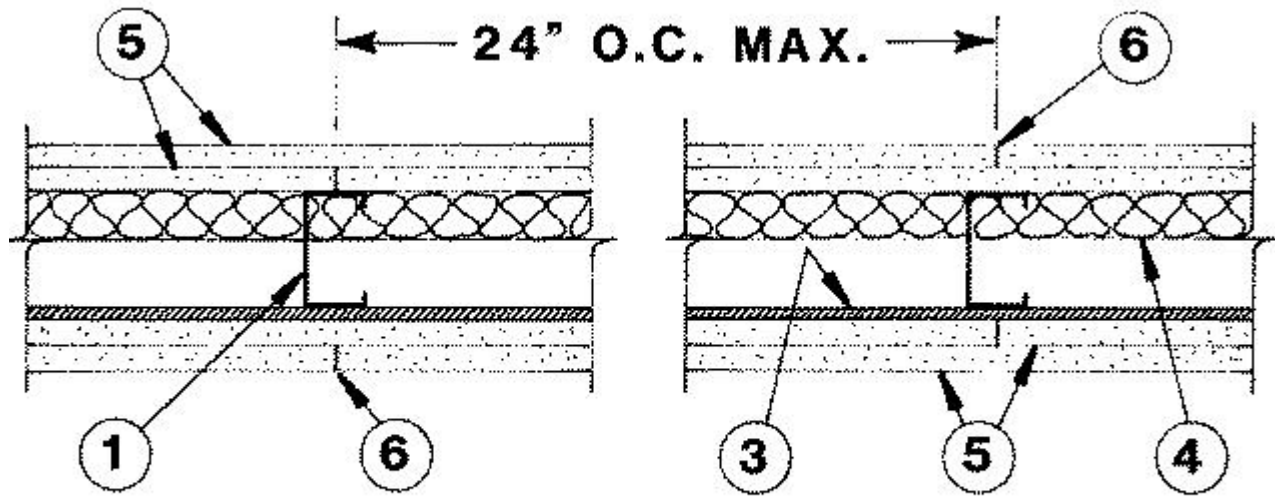
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U454

November 27, 2019

Nonbearing Wall Rating — 2 HR.

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



HORIZONTAL SECTION

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. Studs cut 1 in. less in length than assembly height. Max stud spacing 24 in. OC.

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. Studs cut 1 in. less in length than assembly height. Max stud spacing 24 in. OC.

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. Studs cut 1 in. less in length than assembly height. Max stud spacing 24 in. OC.

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. Studs cut 1 in. less in length than assembly height. Max stud spacing 24 in. OC.

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 2E- proprietary channel shaped steel studs, min 2-1/2 in. wide by 1-1/4 in. deep. Fabricated from No. 25 MSG galv steel. Max stud spacing 24 in. OC. Studs to be cut 1 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

1G. **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. Studs cut 1 in. less in length than assembly height. Max stud spacing 24 in. OC.

STEEL INVESTMENT GROUP L L C — AlphaSTUD

2. **Floor and Ceiling Runners — (Not Shown)** — Channel-shaped runners, 2-1/2 in. wide by 1-1/4 in. deep, fabricated from No. 25 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 — In lieu of Item 2 — For use with Item 1E- proprietary channel shaped runners, 2-1/2 in. wide by 1-1/4 in. deep, fabricated from No. 25 MSG galv steel. Attached to floor and ceiling with fasteners, 24 in. OC, max.

KIRII (HONG KONG) LTD — Type KIRII

2F. **Framing Members* — Floor and Ceiling Runners** — Not Shown — In lieu of Item 2 — For use with Item 1G, 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. **Furring Channel** — Resilient 25 MSG galv steel furring 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.

4. **Batts and Blankets*** — Min 1 in. thick mineral wool attached to base layer of gypsum board which is directly attached to steel studs. Fasten each batt with min 9/16 in. long staples. Use five staples for each 4 ft long piece. Drive one staple in the center of each piece and a staple at each corner, approx 3 in. from edges.

INDUSTRIAL INSULATION GROUP L L C — Type SAFB

JOHNS MANVILLE — Type SAFB

ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m³

THERMAFIBER INC — Type SAFB, SAFB FF

5. **Gypsum Board** — 1/2 in. thick, 4 ft wide. Attached to furring channels, base layer with 1 in. type S steel screws spaced 24 in. OC, face layer with 1-5/8 in. Type S screws spaced 12 in. OC. Gypsum board on direct attached side, base layer attached with 1 in. long type S-12 steel screws 24 in. OC, face layer attached with 1-5/8 in. type S-12 steel screws spaced 12 in. OC. Gypsum board joints oriented vertically, located over studs and offset between layers.

AMERICAN GYPSUM CO — Types AG-C.

CABOT MANUFACTURING ULC — Type C

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type C.

CGC INC — Type C, IP-X2, IPC-AR or WRC.

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

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C.

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSMR-C.

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

PANEL REY S A — Type PRC

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

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Type C, IP-X2, IPC-AR or WRC.

USG BORAL DRYWALL SFZ LLC — Type C

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

5A. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 4 ft wide. Attached to furring channels and steel studs as described in Item 5.

CGC INC — Type AR, IP-AR or SCX.

GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DD, DA, DGG, DS, LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W.

NATIONAL GYPSUM CO — Type FSMR-C.

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

UNITED STATES GYPSUM CO — Type AR, IP-AR, SCX or ULIX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR or SCX.

5B. **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. for base layer and 2-1/4 in. for face layer.

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.

5C. **Gypsum Board*** — (As an alternate to Item 5A, not for use with Items 1B and 2B) — Nom. 5/8 in. thick, 4 ft. wide gypsum panels with beveled, square or tapered edges installed as described in Item 5A.

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 3/32 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.

6. **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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