

## UL Product IQ®



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 - ANS/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

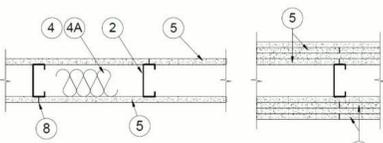
See General Information for Fire Resistance Ratings - ANS/UL 263 Certified for United States  
Design Criteria and Allowable Variations

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

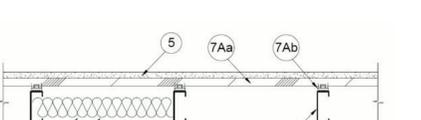
### Design No. U419

July 4, 2025

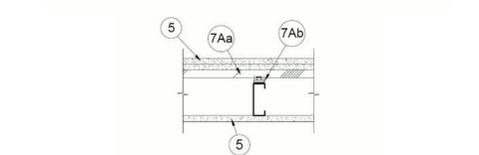
**Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through J)**  
\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



**1. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper25™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper25™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper25™



**2. Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™



**3. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — Proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**4A. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper25™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper25™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper25™

**5. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**6. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**7. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**8. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**9. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**CRACO MFG INC** — SmartStud25™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**10. Floor and Ceiling Runners** — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 25 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1-1/8 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.  
**ALSTEELE & OYSPUM PRODUCTS INC** — Type SUPREME D24/30EQD and Type SUPREME D20  
**CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV** — Type SUPREME D24/30EQD and Type SUPREME D20

**11. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProSTUD  
**DMFCWBLS L L C** — ProSTUD  
**MBA METAL FRAMING** — ProSTUD  
**RAM SALES L L C** — Ram ProSTUD  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**12. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProTRAK  
**DMFCWBLS L L C** — ProTRAK  
**MBA METAL FRAMING** — ProTRAK  
**RAM SALES L L C** — Ram ProTRAK  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**13. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProTRAK  
**DMFCWBLS L L C** — ProTRAK  
**MBA METAL FRAMING** — ProTRAK  
**RAM SALES L L C** — Ram ProTRAK  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**14. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProTRAK  
**DMFCWBLS L L C** — ProTRAK  
**MBA METAL FRAMING** — ProTRAK  
**RAM SALES L L C** — Ram ProTRAK  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**15. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProTRAK  
**DMFCWBLS L L C** — ProTRAK  
**MBA METAL FRAMING** — ProTRAK  
**RAM SALES L L C** — Ram ProTRAK  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**16. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2F, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CLARKDIERICH BUILDING SYSTEMS** — CD ProTRAK  
**DMFCWBLS L L C** — ProTRAK  
**MBA METAL FRAMING** — ProTRAK  
**RAM SALES L L C** — Ram ProTRAK  
**STEEL STRUCTURAL PRODUCTS L L C** — Tri-TRAC™

**17. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/8 in. long legs, fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**18. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/8 in. long legs, fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**19. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/8 in. long legs, fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**20. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/8 in. long legs, fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**21. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**22. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**23. Framing Members\* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**24. Framing Members\* — Floor and Ceiling Runner** — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.  
**CEMCO LLC** — Viper20™  
**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Viper20™  
**IMPERIAL MANUFACTURING GROUP INC** — Viper20™

**HYPERFRAME INC** — Hyperstud

**25. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1Q, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**26. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**27. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**28. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**29. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**30. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**31. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**32. Framing Members\* — Steel Studs** — (Not Shown) — In lieu of Item 2 — For use with Item 1R, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min. 0.022 in. thick galvanized steel. Studs cut 3/8 to 3/4 in. less in lengths than assembly heights.  
**JIC INTERNATIONAL DISTRIBUTORS** — Non-structural Tracks 3-5/8" and 4"

**33. Wood Structural Panel Sheathing** — (Optional, For use with Item 3 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC S14 P32, or APA Standard PPR-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC, in the perimeter and 12 in. OC, in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

**34. Batts and Blankets** — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.  
**See Batts and Blankets (BKNV or 822J) Categories for names of Classified companies.**  
**See Batts and Blankets (BKNV or 822J) Categories for names of Classified companies.**

**4A. Batts and Blankets** — (Optional — as an alternate to Item 4) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.  
**See Batts and Blankets (BKNV or 822J) Categories for names of Classified companies.**

**4B. Fibers, Sprays\*** — (Optional — as an alternate to Item 4 or 4A, for use with Type ULXK) Where insulation is required — Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 g/ft<sup>3</sup> to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).  
**AMERICAN ROCKWOOL MANUFACTURING, LLC** — Type Rockwool Premium Plus

**4C. Foamed Plastic\*** — (Optional — as an alternate to Item 4 or 4A or 4B, for use with Item 5) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for up to 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.

**BA5F CORP** - Enerflex® NMA, Enerflex® G, FE117®, Sprayite® 17B, Sprayite® B120K, Wallite® 200, Wallite® XS, Wallite® WS, Wallite® UA, NALITE HP®, FE137®, FE158®, Sprayite® 15A, Sprayite® 30L, Sprayite® #210S, Sprayite® Comfort XL, Wallite® PL, Wallite® MAX, Wallite® WLP®, Wallite® Plus, Wallite® One, and Enerflex® Max.

**4E. Foamed Plastic\*** — (As an alternate to Item 4 for use with Item 5L) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for up to 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.

**5. Gypsum Boards** — 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 joints in adjacent layers (multilayer systems) staggered one stud cavity. 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. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULXK need not be staggered. The thickness and number of layers of the Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2	No. of Layers & Thicks of Panel	Min Thicks of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

**5I. Gypsum Board\*** — (As an alternate to Item 5) — When used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5. Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 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. Wallboard secured to studs with 1-1/4 in. long Type 5-12 steel screws gypsum panel steel studs spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead battens 1-1/4 in. long, Type 5-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board attached to furring channels as described in Item 6. Not for use with Items 5B, 5E, 5H, or 5I.

**5J. Gypsum Board\*** — (As an alternate to Item 5) — When used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 or 3/4 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. Wallboard secured to studs with 1-1/4 in. long Type 5-12 steel screws gypsum panel steel studs spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead battens 1-1/4 in. long, Type 5-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).  
**MAXCO INDUSTRIES INC** — Type R-40 Sheilded Gypsum

**5I. Gypsum Board\*** — (As an alternate to Item 5) — When used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.  
**CGC INC** — Type ULXK, ULX  
**UNITED STATES GYPSUM CO** — Type ULXK, ULX  
**USG MEXICO S A DE CV** — Type ULX

**5J. Gypsum Board\*** — (Not Shown) — (As an alternate to Item 5) when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 or 3/4 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. Wallboard secured to studs with 1-1/4 in. long Type 5-12 steel screws gypsum panel steel studs spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead battens 1-1/4 in. long, Type 5-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).  
**MAXCO INDUSTRIES INC** — Type RPP - Lead Unid Drywall

**5K. Gypsum Board\*** — (As an alternate to Item 5) when Foam Plastic insulation (Items 4C or 4D) is used) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type 5-12 steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies inner layer will be attached to studs over inner layer with the 1-7/8 in. long steel screws spaced 8 in. OC.

**5I. Gypsum Board\*** — (As an alternate to Item 5) when Foam Plastic insulation (Items 4C or 4D) is used) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 5 above. Additional layer of Gypsum Board is required to what is shown in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. For 2 layer assemblies inner layer attached to studs with 1-1/4 in. long Type 5-12 steel screws spaced 8 in. OC, outer layer will be attached to studs over inner layer with the 1-7/8 in. long steel screws spaced 8 in. OC. For 3 layer assemblies inner layers installed as described in the 2 layer system above, third layer attached to studs over inner layers with 2-5/8 in. long steel screws spaced 8 in. OC.

**6. Fasteners** — (Not Shown) — For use with Items 2 and 2F — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Single layer systems with Type ULXK:** 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. **Two layer systems:** First layer: 1 in. long for 1/2 and 5/8 in. thick panels, spaced 8 in. OC; Second layer: 1-1/4 in. long for 1/2 in. thick panels, spaced 8 in. OC; Second layer: 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from layer below. **Three-layer systems:** First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC; Second layer: 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC; Screws offset min 6 in. from layer below. **Four-layer systems:** First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC; Second layer: 2-1/4 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC; Third layer: 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC; Fourth layer: 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

**7. Furring Channels** — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC, or 18 in. OC, flange portion attached to each intersecting stud with 1/2 in. long Type 5-12 steel screws. Not for use with Items 5B, 5E, 5H, or 5I.

**7A. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel 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 max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6. Gypsum board attached to furring channels as described in Item 6. Not for use with Items 5B, 5E, 5H, or 5I.

**b. Steel Framing Members** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below.

**7B. Framing Members** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below.

**7C. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7D. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7E. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7F. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7G. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7H. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7I. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7J. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7K. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7L. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

**7M. Framing Members** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below.

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