

2011년 1월 2012년 1월 201 1월 2012년 1월 2 1월 2012년 1월 2	PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES
Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.	4H. Gypsum Board ^e — (As an alternate to Item 4) — Not to be used with item 6, 6A, 6B, or 6C. 9 wide, paper surfaced, applied vertically or horizontally and secured as described in Item 4. CERTAINTEED GYPSUM INC — Type SilentFX
his design was evaluated using a load design method other than the Limit	
States Design Method (e.g., Working Stress Design Method). For urisdictions employing the Limit States Design Method, such as Canada, a	4i. Gypsum Board* — (As an alternate to item 4) — 5/8 in. thick, two layers applied either horizy vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 8 in. OC. C
load restriction factor shall be used — See Guide BXUV or BXUV7	attached to studs over inner layer with 2 in. long Type W steel screws spaced 8 in. OC offset 6 in. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers st
 Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), 	layer joints covered with joint tape and compound, screwheads covered with joint compound. As the joint compound nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surfa
respectively.	veneer baseboard. Joints reinforced. Wallboard other than 48 in. wide must be applied horizonta SoundBreak XP Type X Gypsum Board is not to be used with Item 6, 6A, 6B, or 6C. NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSW-3, FSW-5, FSW-6, FSW-C, FSW-G,
16" O.C 16" O.C	SoundBreak XIP Type X Gypsum Board
л Ми Ми	4). Gypsum Board* — (As an alternate to Items 4) — For Direct Application to Studs Only- For u
	layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or t applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite
	Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws at perimeter and in the field when applied as the base layer. When applied as the face layer screw the standard base
(4)(3) (2) (1) 2×4's firestopped	increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum w optional at remaining stud locations. Lead batten strips, min 2 in, wide, max 10 ft long with a ma 0.140 in, placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan h
1. Nailheads — Exposed or covered with joint compound.	one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by m compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity
Joints — Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may b omitted when square edge boards are used. As an alternate, nom 3/32 in, thick gypsum veneer plaster may be	meeting the Federal specification QQ-L-201f, Grades "B, C or D". Fasteners for face layer gypsum 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel
applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape.	described in Item 4. MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"
 Nails — 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam, 1/4 in. diam heads, and 8d cement coated nails 2-3/8 in. long, 0.113 in. shank diam, 9/32 in. diam heads. 	4K. Gypsum Board* — For use with Item 7 — 5/8 in. thick, two layers applied vertically. Inner lay
 Gypsum Board* — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. Ion 	resilient channels with 1 in. long steel screws spaced 8 in. OC. All joints in face layer attached to resilient ch layer with 1-5/8 in. long steel screws spaced 8 in. OC. All joints in face layers staggered with joint
nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layer. Joints of each base layer offset with joints of base layer on opposite side.	Joints of each base layer offset with joints of base layer on opposite side, insulation, Items 8 or 9 AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, AGX-11
When used in widths other than 48 in. gypsum board to be installed horizontally. When Steel Framing Members* (Item 6, 6A, 6B, or 6C) are used, base layer attached to furring channels with 1 in.	
long Type S bugle-head steel screws spaced max 24 in. OC; face layer attached with 1-5/8 in. long Type S bugle- head steel screws spaced max 12 in. OC.	4L. Gypsum Board* — (As an alternate to items 4) — For Direct Application to Studs Only- For u layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or t
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, AGX-11, LightRoc	applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite Wallboard secured to studs with 1–5/8 in. long Type W coarse thread gypsum panel steel screws
BELIING NEW BUILDING MATERIALS PUBLIC LTD CO - Type DBX-1	
CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mole & Mildew Resistant Type X and Mold& Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing	at perimeter and in the field when socilist as the base base. When socilis does the first to
	at perimeter and in the field when applied as the base layer. When applied as the face layer scre increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum v optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max
	in, placed on the face of studs and attached to the stud with construction adhesive and two 1 in pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs,
CERTAINTEED GYPSUM INC Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X, Type X-1	diam by max 0.085 in. thick. compression fitted or adhered over the screw heads. Lead batten st have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for fac panels (items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 b
CGC INC Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX	screws spaced as described in item 4. RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall
CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX, CLLX	
GEORGIA-PACIFIC GYPSUM L L C - Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPP56, LS, TG-C, Type X,	4M. Gypsum Board* — (As an alternate to item 4) — 5/8 in. thick, 4 ft. wide, two layers applied vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Sec
Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type LWX, Veneer Plaster Base-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	in item 4. CERTAINTEED GYPSUM INC — 5/8" Easi-Lite Type X
Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W	
NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSW, FSW-3, FSW-5, FSW-6, FSW-6, FSW-C, FSW-G,	4N. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Items 4 or 4I) — Nom. 5/16 in. th panels applied vertically or horizontally. Two layers of 5/16 in, for every single layer of 5/8 in. gys described in Item 4 or 4I. Horizontal joints on the same side need not be staggered. Inner layer of the same side need not be staggered.
FSMR-C. FSL	5/16 in. layer attached with fasteners, as described in item 4 or 4I, spaced 24 in. OC. Outer layer o 5/16 in. layer attached per Item 4 or 4I.
NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR,	NATIONAL GYPSUM CO — Type FSW
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2, PG-3, PG-3W, PG-4, PG-5, PG-5W, PG-5WS, PG-9, PG-11, PG-C or PGS-WRS	40. Wall and Partition Facings and Accessories* (As an alternate to items 4 through 4N)
PANEL REY S A Types PRC, PRC2, PRX, RHX, MDX, ETX, GREX, GRIX	thick, 4 ft wide panels, applied vertically and secured as described in Item 4. PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM — Type QuietRock 527
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD - Type EX-1	4P. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, two layers applied either horiz
THAI GYPSUM PRODUCTS PCL — Type C or Type X	vertically. Inner layer attached to study with 1-1/4 in. long Type W steel screws spaced 10 in. OC screws 4 and 1 in. from the edges of the board. Outer layer attached to study over inner layer with
UNITED STATES GYPSUM CO - Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, USGX, WRC,	Type W steel screws spaced 10 in, OC offset 5 in. from base layer with the last two screws 4 and edges of the board. Vertical joints located over studs. Vertical and horizontal joints between inne
WRX	staggered. Outer layer joints covered with joint tape and compound, screwheads covered with jo When used in widths other than 48 in, gypsum panels are to be installed horizontally. CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A, Type LGFC2A, Typ
USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX	WD, Type LGLLX
USG MEXICO S A DE C V Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX	4Q. Gypsum Board* (As an alternate to Item 4. For use with Item 13) Any 5/8 in, thick, 4 ft
4A. Gypsum Board* — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4.	Board UL Classified for Fire Resistance (CKNX) eligible for use in Design Nos. U305 and L501 or 0 applied either horizontally or vertically, and screwed to studs with 1-5/8 in. long Type W coarse to
CGC INC — Types AR, IP-AR	screws at 8 in. QC at perimeter and in the field with the last two screws 4 and 3/4 in, from the ec when applied as the base layer. For the face layer, screw length to be increased to 2-1/2 in. All jc staggered with joints in base layers. When used in widths other than 48 in, gypsum panels are t
UNITED STATES GYPSUM CO — Types AR, IP-AR	horizontally.
USG MEXICO S A DE C V Types AR, IP-AR	
	4R. Gypsum Board* — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or ve
4B. Gypsum Board* — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft wide, tongue and groove edge,	layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws sp OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long
applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 4. Joint covering (Item 2) not required.	thread gypsum panel steel screws spaced a max 8 in, OC, with last screw 1 in. from edge of board widths other than 48 in., gypsum board to be installed horizontally. All joints in face layers stagge in base layers. Joints of each base layer offset with joints of base layer on opposite side.
CGC INC — Type SHX	CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2. Type C, Type X. Type X-1, Easi-Lite Type
UNITED STATES GYPSUM CO — Type SHX	45. Gypsum Board* — (As an alternate to Item 4. For use with Item 13A) — 5/8 in. thick, two lays
USG MEXICO S A DE C V Type SHX	vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attach inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joint
4C. Gypsum Board* — (As an alternate to Items 4, 4A or 4B — Not Shown) — For Direct Application to Studs	staggered with joints in base layers. Joints of each base layer offset with joints of base layer on o UNITED STATES GYPSUM CO — Type SCX
Only For use on one or both sides of the wall as the base layer or one or both sides of the wall as the face layer. 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. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead	 Molded Plastic* — Not Shown, Optional — Solid vinyl siding mechanically secured over the o framing members in accordance with manufacturer's recommended installation details. ALSIDE, DIV OF ASSOCIATED MATERIALS INC
batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in, placed on the	GENTEK BUILDING PRODUCTS LTD
face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, F4j.one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead	VYTEC CORP
batten strips 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 underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of	 Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Me described below: A. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide b
99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as	A. Furring Channels — Formed of No. 25 MSG galvisteel. 2-9/16 in. or 2-23/32 in. wide b spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item t adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SV
described in-Item 4. RAY-BAR ENGINEERING CORP — Type R8-LBG.	wire near each end of overlap. As an alternate, ends of adjoining channels may be overlap secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpo
	overlap, with one screw on each flange of the channel. Wallboard attached to furring char described in Item 4.
4D. Gypsum Board* — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or vertically. Inner layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse	B. Steel Framing Members* — Used to attach furring channels (Item 6a) to studs. Clips s and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grom
OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in, gypsum board to be installed horizontally. All joints in face layers staggered with joints	channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. (2.75) clip for use with 2-23/32 in. wide furring channels.
in base layers, Joints of each base layer offset with joints of base layer on opposite side. AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc	PAC INTERNATIONAL L L C Types RSIC-1, RSIC-1 (2.75)
	6A. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing M
4E. Gypsum Board* — (As an alternate to Items 4 through 4D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically an excured as described in Item 4.	described below: A. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular Channels secured to study as described in Item b. Ends of adjoining channels overlapped
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board	Channels secured to studs as described in Item b. Ends of adjoining channels overlapped together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached channels as described in Item 4.
4F, Gypsum Board* — (As an alternate to Item 4) — Not to be used with item 6, 6A, 6B or 6C. 5/8 in. thick, 4 ft.	B. Steel Framing Members* — Used to attach furring channels (Item 6Aa) to studs. Clips
wide, paper surfaced, applied vertically and secured as described in Item 4.	OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through t
NATIONAL GYPSUM CO - Type SBCB	Furring channels are friction fitted into clips.

6B. 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 68b. 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

B. Steel Framing Members* - Used to attach furring channels (Item 68a) to studs. Clips spaced 48 in. OC., and secured to study with 2-1/2 in, coarse drywall screw through the center hole. Furring channels, are friction fitted into clips. REGUPOL AMERICA — Type SonusClip

6C. Steel Framing Members* --- (Optional, Not Shown) -- Resilient channels and Steel Framing Members as described belo a. Resilient Channels --- Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to study 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. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.

b. Steel Framing Members" --- Used to attach resilient channels (Item 6Ca) 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 hannels 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

7. Furring Channel - Optional - Not Shown - For use on one side of the wall with Item 4K - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Item 8 or 9 is required.

8. Batts and Blankets* -- Required for use with resilient channels. Item 7, min. 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the norn 4 in. face of the studs with staples placed 24 in. OC. ROCKWOOL - Type SAFEnSOUND

THERMAFIBER INC --- Type SAFB, SAFB FF

channels as described in Item 4

9. Batts and Blankets* - (As an alternate to item 8) - Min, 3 in, thick plass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the stud cavities. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

9A. Fiber, Sprayed* - (Optional) - As an alternate to Batts and Blankets (Item 8), Required for use with resilient channels, Item 7, Not for use with Item 6, 6A, 6B, or 6C. - Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC --- Type Rockwool Premium Plus

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 wood 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 wosum Board PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM - Type QuietRock QR-500 or QR-510

11. Cementitious Backer Units* --- (Optional Item Not Shown --- For Use On Face Of 2 Hr Systems With All Standard Items Required) -- 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied horizontally or vertically with vertical joints centered over studs. Face layer fastened over gypsum board to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. NATIONAL GYPSUM CO --- Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. Wall and Partition Facings and Accessories* --- (Optional, Not Shown) - When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below.

A. Non Insulated system with metal channels - Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Wood Studs using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco illmod 600 pre compressed polyurethane foam sealant.

8. Insulated system with metal channels Install galvanized Z girt channels specified by the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the wood study with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116), Adhesive to be applied in a zigzag pattern along every channel, Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

C. Non insulated wood strapping system --- Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC, over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Wood studs using fasteners specified by the manufacturer and fasteners spaced max, 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel

fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

D. Insulated Wood Strapping System -- Install moisture barrier over the Gypsum Board Item 4, Install Extruded Polystyrene Insulation over moisture barrier and the Gypsum Board Item 4, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Wood Studs using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

ACRYTEC PANEL INDUSTRIES - Nominal 5/8 inch thick Acrytec Panel.

13. Foamed Plastic* - (Optional, Not Shown - For use with Item 4Q) - Spray applied, foamed plastic insulation. at any thickness from partial fill to completely filling stud cavity. SES FOAM INC --- Nexseal³⁴ 2.0 or Nexseal³⁴ 2.0 LE Spray Foam and Sucraseal Spray Foam. For use in Bearing and Non-Load Beating Walls.

13A. Foamed Plastic* -- (Optional, Not Shown - For use with Item 45) --- Spray applied, foamed plastic insulation, to completely filling stud cavity. GACO WESTERN LLC --- Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and Gaco WallFoam 183M.

14. Foamed Plastic* -- (Optional, Not Shown - For use over Gypsum Board, Item 4) - Polyisocyanurate foamed plastic boards, any thickness applied vertically with vertical joints located over studs. May be used with Molded Plastic, Item 5 or any exterior facing, as authorized by the Authority Having Jurisdiction and installed in accordance with the manufacturer's installation instructions HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci Class A", "Xci 286", "Xci Foil (Class Ay", "Xci CG", "Xci Foil", "Xci CG NH", "Xci Foil NH"

15. Building Units* — (Optional, Not Shown - For use over Gypsum Board, Item 4) Polyisocyanurate composite foamed plastic boards, any thickness, applied vertically with vertical joints located over studs. May be used with Molded Plastic, Item 5 or any exterior facing, as authorized by the Authority Having Jurisdiction and installed in accordance with the manufacturer's installation instruction HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC - "Xci NB", "Xci Ply"

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

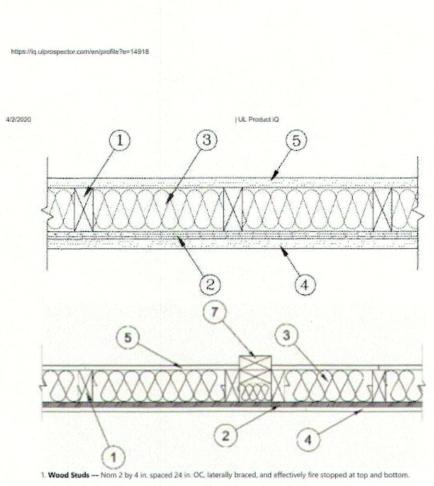
Last Updated on 2020-02-04

Design No. U344

March 11, 2020 Bearing Wall Rating - 1 Hr.

Finish Rating - 26 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.



2. Wood Structural Panel Sheathing --- Nom 15/32 in. thick, 4 ft wide APA Rated Sheathing 32/16. Exposure 1, plywood or riented strand board (OSB) per PS1, PS2 or APA Standard PRP-108. Installed with long dimension of sheet (strength axis) or face grain of plywood, parallel with study. Vertical joints centered on study, and staggered one stud space from wallboard Joints. Horizontal joints backed with nom 2 by 4 in. wood backing. Attached to studs on exterior side of wall with 6d cement oated steel box nails spaced 12 in. OC along interior studs and 6 in. OC at perimeter of panels.

3. Batts and Blankets* --- 3-1/2 in. thick foil-faced glass fiber batts. Supplied in rolls 23 in. wide. Density to be nom 0.70 pcf. Friction-fitted to completely fill the stud cavity. See Batts and Blankets* (82JZ) 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 with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. S GREENFIBER L L C -- INS735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

3B. Fiber, Sprayed* — As an alternate to Item 3 and 3A — 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 4.58 lb/ft3. https://iq.ulprospector.com/en/profile?e=14918

4/2/2020 IUL Product iQ 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, applied horizontally or vertically. Attached to study through plywood sheathing with 8d cement coated nails 2-3/8 in. long, 0.113 in. shank diam, 9/32 in. diam head nails spaced 7 in. OC along studs and at perimeter of panels. When used in widths other than 48 in, wallboard is to be installed horizontally. Joints exposed or covered with tape and compound. When Item 6, Steel Framing Members*, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC

AMERICAN GYPSUM CO - Types AGX-1, M-Glass, AG-C, LightRoc.

CABOT MANUFACTURING ULC - 5/8 Type X. Type Blueglass Exterior Sheathing

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C -- Types LGFC6, LGFC6A, LGFC-C, LGFC-C/A.

CERTAINTEED GYPSUM INC --- Type C. Type X or Type X-1 (Finished Rating is 23 minutes): Type EGRG, Type GlasRoc, GlasRoc-2, Easi-Lite

CGC INC - Type AR, C, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX.

GEORGIA-PACIFIC GYPSUM LLC --- Types TG-C, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit -GreenGlas Type X, Type LWX, Veneer Plaster Base-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 Rate e LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W, Type DGG, Type DAP, Type DS.

NATIONAL GYPSUM CO - Types FSK, FSK-G, FSW-3, FSW-3, FSW-5, FSW-G, FSK-C, FSW-C, FSMR-C, FSW-6, FSL, FSW-8

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

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

PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM - Types PG-11, PGS-WRS.

THAI GYPSUM PRODUCTS PCL - Type C or Type X

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

USG BORAL DRYWALL SFZ LLC - Types C. SCX, USGX

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4A. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as GEORGIA-PACIFIC GYPSUM L L C - Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min).

widths of other than 48 in., gypsum boards are to be installed horizontally. GEORGIA-PACIFIC GYPSUM L L C — GreenGlas Type X, Type DGG.

SD. Gypsum Board* --- (As an alternate to Items 5 through 5C) -- Nominal 5/8 in. thick, 4 ft wide panels, applied vertically

SE. Wall and Partition Facings and Accessories* --- (As an alternate to Items 5 through 5D) --- Nominal 5/8 in. thick, 4 ft wide PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM - Type QuietRock 527

NATIONAL GYPSUM CO - Type SBWB

in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, LLC - Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

51. Gypsum Board* --- (As an alternate to Item 5. For use with Item 6E) - Any 5/8 in. thick, 4 ft. wide, Gypsum Board UL one stud cavity on opposite sides of studs. Type S steel screws used to attach gypsum board to furring channels. First layer - 1 in. long, 3 inches from the edge and 24 in. OC. Second layer- 1-5/8 in. long, spaced 1 inch from the edge and 12 in. OC.

6. 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. 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Items 4 and 5.

b. Steel Framing Members* - Used to attach furring channels (Item 6a) 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 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. PAC INTERNATIONAL L C - Types RSIC-1, RSIC-1 (2.75).

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 study. Channels secured to study 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 5.

PLITEQ INC - Type Genie Clip

6B. 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. b. Steel Framing Members* --- Used to attach furring channels (Item 6Ba) to study, Clips spaced 48 in, OC., and secured to study with 2 in, coarse drywall screw with 1 in, diam washer through the center hole. Furring channels are friction fitted into clips. TUDCO BUILDING SYSTEMS - RE

4B. Gypsum Board* - (As an alternate to Items 4, 4A) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically only and PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM -- Type QuietRock ES.

4/2/2020

4C. Wall and Partition Facings and Accessories* --- (As an alternate to Items 4, 4A, 4B) --- Nominal 5/8 in. thick, 4 ft wide

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panels, applied vertically only and secured as described in Item 4. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in, gypsum panels are to be installed horizontally. CONTINENTAL BUILDING PRODUCTS OPERATING CO, LLC - Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

5. Gypsum Board* - 5/8 in. thick, 4 ft wide applied horizontally or vertically. Attached to studs or blocking at 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads. When used in widths other than 48 in. wallboard to be installed horizontally. Joints exposed or covered with tape and compound. When Item 6-6D, Steel Framing Members*, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in Of

CABOT MANUFACTURING ULC - 5/8 Type X, Type Blueglass Exterior Sheathing CGC INC - Type AR, C, IP-X1, IP-X2, IPC-AR, SCX, ULX, USGX, WRX

AMERICAN GYPSUM CO - Types AGX-1, M-Glass, AG-C, LightRoc

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C -- Types LGFC6, LGFC6A, LGFC-C, LGFC-C/A

NATIONAL GYPSUM CO --- Types FSK, FSK-G, FSW, FSW-3, FSW-5, FSW-G, FSK-C, FSW-C, FSMR-C, FSW-6, FSL, FSW-B

GEORGIA-PACIFIC GYPSUM L L C - Type TG-C, GreenGlass Type X, Type DGG

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM -- Types PG-11, PGS-WRS

UNITED STATES GYPSUM CO - Type AR. C. FRX-G. IP-X1, IP-X2, IPC-AR, SCX, UUX, ULX, USGX or WRX

USG BORAL DRYWALL SFZ LLC --- Types C, SCX, USGX

USG MEXICO S A DE C V - Type AR, C. IP-X1, IP-X2, IPC-AR, SCX, ULX, USGX or WRX 5A. Gypsum Board* - As an alternate to item 5 - (not shown) - 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically, Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally. Joints exposed or covered with tape and compound. https://ig.ulprospector.com/en/profile?e=14918 https://jp.ulprospector.com/en/profile?eo14918

4/2/2020 AMERICAN GYPSUM CO - Types AGX-1, M-Glass, AG-C (Finished Rating is 25 minutes), LightRoc

CGC INC --- Type AR, C, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC or WRX. (Finished Rating is 24 minutes).

FSMR-C, Type FSW-6, Type F5L

THAI GYPSUM PRODUCTS PCL - Type C or Type X

USG BORAL DRYWALL SFZ LLC - Types C. SCX, USGX

GEORGIA-PACIFIC GYPSUM L L C - Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM - Type QuietRock ES.

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5H. Gypsum Board* — — (As an alternate to Item 5-5G) — 5/8 in. thick, 4 ft, wide, paper surfaced applied vertically or horizontally and secured as described in Item 5 CERTAINTEED GYPSUM INC - Type SilentFX

4/2/2020 UL Product iQ 6C. Steel Framing Members* -- (Optional, Not Shown) -- Furring channels and Steel Framing Members as described belo a. Furring Channels - Formed of No. 25 MSG galv steel. Spaced 24 In: OC perpendicular to studs. Channels secure to studs as described in item 6Cb. Ends of adjoining channels overlapped 6 in, and tied together with double strand No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 5. b. Steel Framing Members* - Used to attach furring channels (Item 6Ca) to study. 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 REGUPOL AMERICA - Type SonusClip 4D. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, 6D. Steel Framing Members* --- (Optional, Not Shown) --- Resilient channels and Steel Framing Members as described be

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 I B 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached resilient channels as described in Item 5. b. Steel Framing Members* - Used to attach resilient channels (Item 6Da) 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. nan-head self-drilling screw. KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6E. Steel Framing Members* --- (Optional, Not Shown) --- Furring channels and 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 6Eb. Ends of adjoining channels overlapped 6 in, and tied together with double strand o No. 18 AWG galvanized steel wire. 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 scre on each flange of the channel. Two layers of gypsum board attached to furring channels as described in 51.

b. Framing Members* - Used to attach furring channels (Item 6Ea) to studs (Item 1). Rafts secured to stud, spaced a maximum of 24 in. OC. horizontally, vertically spaced 3 in. from the top and bottom and 24 inch on center along each stud and secured with two 1-1/4 inch (No. 6) Type W drywall screws. One on each side of the core. Fasteners should not be placed closer than 1/4 inch to the edges of the mounts. BCD LLC --- Type HushFrame Raft Connector

7. Non-Bearing Wall Partition Intersection --- (Optional) -- Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3-1/2 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by in stud with 3 in long 10d nails spaced a max 16 in, OC, vertically. Intersection between partition wood studs to be flush w the 2 by 4 in, studs. The wall partition wood studs are to be framed by with a second 2 by 4 in, wood stud fastened with 3 in long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Nonbearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

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

Last Updated on 2020-03

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UL Product iQ CERTAINTEED GYPSUM INC - Type C, Type X or Type X-1 (Finished Rating is 23 minutes); Type EGRG, Type GlasRoc, GlasRoc, G

NATIONAL GYPSUM CO -- Type FSK, Type F5K-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type

UNITED STATES GYPSUM CO - Type AR, C, FRX-G, IP-X1, IP-X2, IPC-AR, SCX, ULX, USGX or WRX. (Finished Rating is 24 minutes)

USG MEXICO S A DE C V --- Type AR, C, IP-X1, IP-X2, IPC-AR, SCX, ULX, USGX or WRX. (Finished Rating is 24 minutes)

58. Gypsum Board* --- (As an alternate to Items 5 and 5A) --- 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed as described in Item 5. When used in

SC. Gypsum Board* — (As an alternate to Items 5 through 58) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and

5F. Gypsum Board* — (As an alternate to Items 5 through 5E) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically only

5G. Gypsum Board* --- (As an alternate to item 5) --- 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in, long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used

UL Product iQ

Classified for Fire Resistance (CKNX) eligible for use in Design Nos. U305, L501 or G512. Two layers, applied vertically, and stached to furring channels (item 6Ea). Vertical gypsum board side joints offset 24 inches between layers. Horizontal butt joints offset 48 inches from adjacent board horizontal joints and 24 inches from base layer butt joint. Vertical joints staggered

b. Steel Framing Members* — Used to attach furring channels (Item a) to study. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted



S S SHEET TITLE UL DOCUMENTATION

PROJECT NUMBER 171057

SHEET NUMBER

RELEASE FOR

CONSTRUCTION

AS NOTED ON PLANS REVIEW

DEVELOPMENT SERVICES

LEE'S SUMMIT, MISSOURI

04/03/2020

