

Design No. U311 BXUV.U311 Fire Resistance Ratings - ANSI/UL 263

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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.

BXUV - Fire Resistance Ratings - ANSI/UL 263

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

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U311

July 14, 2016

Bearing Wall Rating - 1 HR.

Finish Rating - 23 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.

From joint edge:

Steel Framing Members* - Used to attach furring channels (Item 2c) to studs. Clips spaced 16 or 24 in. OC, and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS - RESILMOUNT Sound Isolation Clips - Type A237R

Gypsum Board* - 5/8 in. thick, 4 ft wide. Screw attached on one side of wall to furring channels with 1 in. long, self-drilling, self-tapping screws spaced 12 in. OC, vertical joints isolated midway between studs and back blocked with furring channels, attached with 1 in. long, self-drilling, self-tapping screws, spaced 12 in. OC, along each edge.

AMERICAN GYPSUM CO - Types AG-C

CERTAINTED GYPSUM INC - Type FRFC, Type C

CGC INC - Types C, IP-X2, IPC-AR

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 -xXP-C, PSK-C, FSW-C, FSW-G

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

SAINT-GOBAIN GYPROC MIDDLE EAST FZE - Type Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIVAir, Gyproc FireStop MR ACTIVAir, Gyproc FireStop M2TECH ACTIVAir, Gyproc Duraline, Gyproc Duraline MR, Gyproc Duraline M2TECH, Gyproc Duraline ACTIVAir, Gyproc Duraline MR ACTIVAir, Gyproc Duraline M2TECH ACTIVAir

THAI GYPSUM PRODUCTS PCL - Type C

UNITED STATES GYPSUM CO - Types C, IP-X2, IPC-AR

USG BORAL ZAWAWI DRYWALL L L C SFZ - Type C

USG MEXICO S A D E C V - Types C, IP-X2, IPC-AR

Batts and Blankets* - 3-1/2 in. thick mineral wool batts, placed to fill interior of wall, attached to the 4-in. face of the studs with staples placed 24 in. OC.

JOHNS MANVILLE

ROCK WOOL MANUFACTURING CO - Delta Board.

ROXUL INC - Acoustical Fire Batts

THERMAFIBER INC - Type SAFB.

Glass Fiber Insulation - (As an alternate to Item 4) - 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See Batts and Blankets (BXUV or B232) Categories for names of Classified companies.

Fiber, Sprayed* - As an alternate to Batts and Blankets (Item 4) - 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.

U S GREENFIBER L L C - INS735 & INS745 for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS745, INS765LD and INS790LD are to be used for dry application only

Fiber, Sprayed* - As an alternate to Items 4, 4A, and 4B - 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.

NU-WOOL CO INC - Cellulose Insulation

Fiber, Sprayed* - As an alternate to Batts and Blankets (Item 4) - 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 lb/ft³.

INTERNATIONAL CELLULOSE CORP - Celbar-RL

Joints and Screw Heads - Wallboard joints covered with paper tape and joint compound. Screw heads covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

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 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 Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PARCO GYPSUM - Type QuietRock QR-500 and QR-510

Mineral and Fiber Board - (Optional, Not Shown) - 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on the side of the wood framing without the resilient channels, in between the wood framing and the UL Classified gypsum board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed horizontally or vertically and fastened through the fiber boards to wood framing with 2 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. Gypsum board joints staggered from fiber board joints. Fiber boards not evaluated or intended as a substitute for the required layer of UL Classified Gypsum Board.

BLUE RIDGE FIBERBOARD INC - SoundStop

* 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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Design No. U329 BXUV.U329 Fire Resistance Ratings - ANSI/UL 263

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

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U329

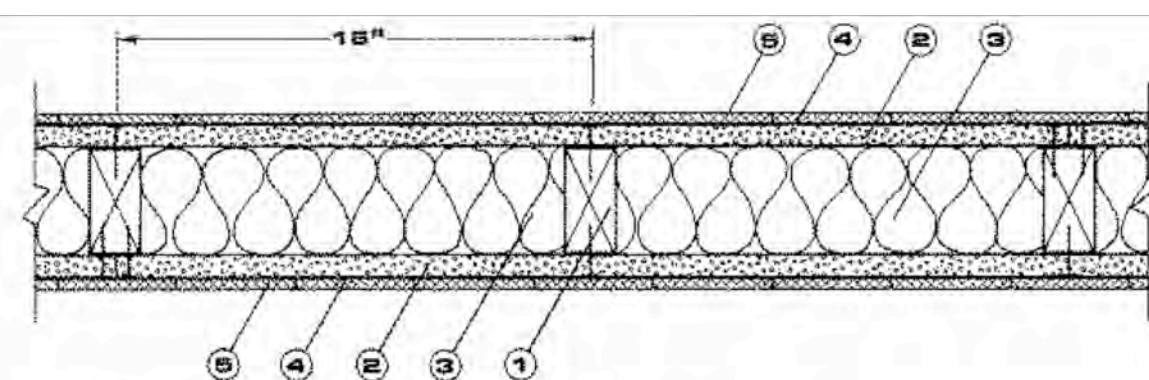
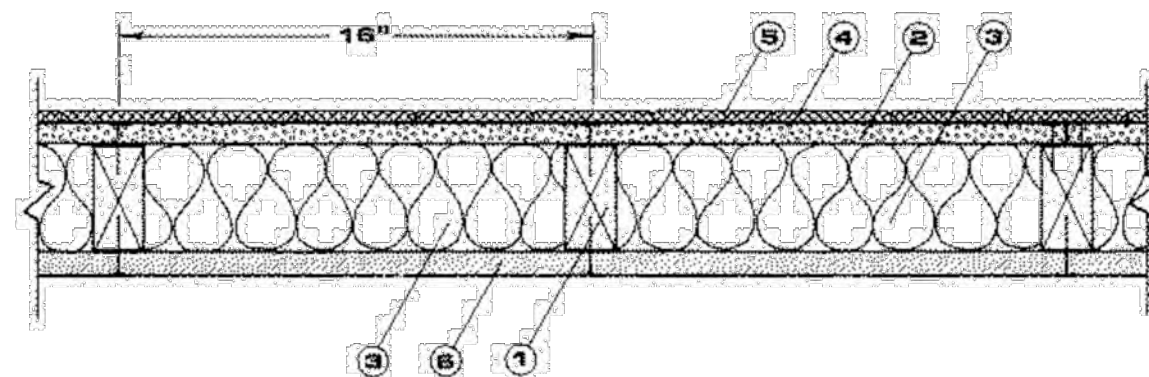
October 16, 2015

Bearing Wall Rating - 1 HR.

Finish Rating - (See Items 2, 6 and 6A)

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

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- 1. Wood Studs - Nominal 2 in. x 4 in., spaced 16 in. OC.
- 2. Cementitious Backer Units* - 1/2 or 5/8 in. thick, installed vertically or horizontally with vertical joints centered over studs. Fastened to studs and plates 7 in. OC around the perimeter and in the field with 6d cement coated nails or 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.

UNITED STATES GYPSUM CO - Type DCB.

USG MEXICO S A D E C V - Type DCB.

3. Batts and Blankets* - Min 3-1/2 in. thick mineral wool batts, friction fit between studs to fill interior stud cavity.

INDUSTRIAL INSULATION GROUP L L C - Type SAFB

JOHNS MANVILLE - Type SAFB

ROXUL INC - Type AFB

THERMAFIBER INC - Type SAFB

4. Bond Coat for Setting Tile - Latex modified portland cement mortar or Type I organic adhesive applied with a notched trowel.

5. Ceramic Tile - 1/4 in. thick, joints filled with grout.

6. Gypsum Board* - 5/8 in. thick, with square or tapered edges, applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and plates 7 in. OC with 1-7/8 in. long 6d cement coated nails or 1-7/8 in. long Type W or S screws. When used in widths other than 48 in., gypsum board to be installed horizontally.

ACADIA DRYWALL SUPPLIES LTD - Type X, 5/8 Type X, Type BlueGlass Exterior Sheathing

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

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

CERTAINTED GYPSUM INC - Types EGRG, GlasRoc, or Type C

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C - Types LGFC6A (finish rating 34 min), LGFC2A, LGFC-C/A, LGFC-WD, LGLXL.

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

CGC INC - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type SCX (Finish rating 26 min), Type WRC (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type IPC-AR (Finish rating 26 min), Type ULX (Finish rating 22 min).

GEORGIA-PACIFIC GYPSUM L L C - Types 5, 6, 9, C, DA, DAP, DAPC, DGG, DS, GPF56, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, 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 LWXZ, Veneer Plaster Base - Type LWXZ, Water Rated - Type LWXZ, Sheathing - Type LWXZ, Soffit - Type LWXZ, Type DGLWZ, Water Rated - Type DGLWZ, Sheathing - Type DGLWZ.

NATIONAL GYPSUM CO - Types PSK, PSMR-C, FSW, FSW-3, FSW-6, FSW-8, FSW-L

PABCO BUILDING PRODUCTS L L C, DBA PARCO GYPSUM - Types C, PG-9, PG-11, PG-C, PGS-WRS.

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD - Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL - Type C

UNITED STATES GYPSUM CO - Type AR (Finish rating 26 min), Type C (Finish rating 26 min), Type FRX-G (Finish rating 29 min), Type IP-AR (Finish rating 26 min), Type IP-X1 (Finish rating 26 min), Type IP-X2 (Finish rating 26 min), Type IP-AR (Finish rating 26 min), Type SCX (Finish rating 26 min), Type ULX (Finish rating 20 min), Type ULX (Finish rating 22 min), Type WRC (Finish rating 26 min).

USG BORAL ZAWAWI DRYWALL L L C SFZ - Types C, SCX

USG MEXICO S A D E C V - Type AR (finish rating 26 min), Type SCX (finish rating 26 min), Type C (finish rating 26 min), Type WRC (finish rating 26 min), Type IP-X1 (finish rating 26 min), Type IP-X2 (finish rating 26 min), Type IP-AR (finish rating 26 min), Type IPC-AR (finish rating 26 min), Type ULX (finish rating 22 min).

6A. Gypsum Board* - As an alternate to Item 6 - (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 other than 48 in., gypsum boards are to be installed horizontally.

ACADIA DRYWALL SUPPLIES LTD - Type X

AMERICAN GYPSUM CO - Types AGX-1, M-Glass, AG-C (Finished Rating is 25 minutes).

CERTAINTED GYPSUM INC - Type C or Type X (Finished Rating is 23 minutes).

CGC INC - Type AR, Type C, Type IP-X1, Type IP-X2, Type SCX, Type WRC, Type IP-AR, Type IPC-AR, Type ULX. (Finished Rating is 24 minutes).

THAI GYPSUM PRODUCTS PCL - Type C or Type X

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

USG BORAL ZAWAWI DRYWALL L L C SFZ - Types C, SCX

USG MEXICO S A D E C V - Type AR, Type SCX, Type ULX, Type C, Type WRC, Type IP-X1, Type IP-X2, Type IP-AR, Type IPC-AR. (Finished Rating is 24 minutes).

6B. Gypsum Board* - (As an alternate to Items 6 and 6A) - 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.

CGC INC - Type USGX

UNITED STATES GYPSUM CO - Type USGX

USG MEXICO S A D E C V - Type USGX

6C. Gypsum Board* - (As an alternate to Items 6 through 6B) - 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as described in Item 6.

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

6D. Gypsum Board* - (As an alternate to Items 6 through 6C) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 6.

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

6E. Gypsum Board* - (As an alternate to Items 6 through 6D) - 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as described in Item 6.

CERTAINTED GYPSUM INC - Type SilentFX

6F. Gypsum Board* - (As an alternate to Item 6) - 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 6.

CERTAINTED GYPSUM INC - 5/8" Easy-Lite Type X

THAI GYPSUM PRODUCTS PCL - Type X

6G. Wall and Partition Facings and Accessories* - (As an alternate to Item 6) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 6.

PABCO BUILDING PRODUCTS L L C, DBA PARCO GYPSUM - Type QuietRock S27

6H. Gypsum Board* - (As an alternate to Item 6) - 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 in widths other than 48 in., gypsum panels are to be installed horizontally.

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

7. Joints - (Not Shown) - Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape.

6I. Gypsum Board* - (As an alternate to Items 6 through 6H) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically only and secured as described in Item 6.

NATIONAL GYPSUM CO - SoundBreak XP Type X Gypsum Board

6J. Gypsum Board* - (As an alternate to Item 6) - 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 in widths other than 48 in., gypsum panels are to be installed horizontally.

7. Joints - (Not Shown) - Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape.

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Design No. L535 BXUV.L535 Fire Resistance Ratings - ANSI/UL 263

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

See General Information for Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. L535

October 07, 2016

Unrestrained Assembly 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

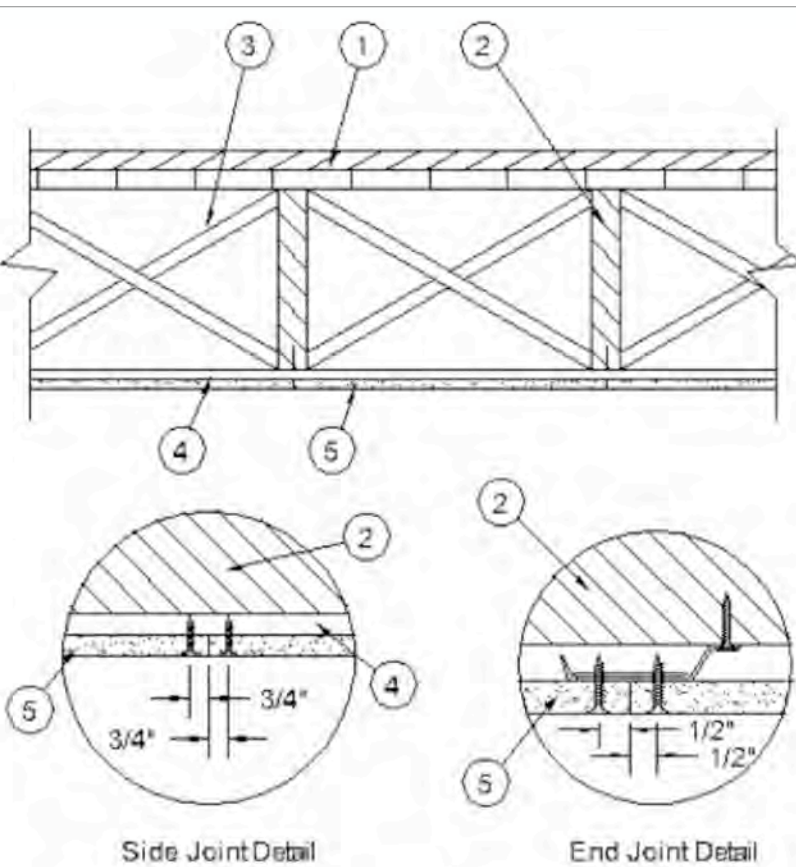
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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1. Flooring Systems - The flooring system shall consist of one of the following:

System No. 1

Subflooring - Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

System No. 2

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Finish Flooring - Floor Topping Mixture - Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi.

USG MEXICO S A D E C V - Types LRK, HSLRK, CSD

Floor Mat Materials* - (Optional) - Floor mat material loose laid over the subfloor.

UNITED STATES GYPSUM CO - Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* - (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor.

GRASSWORX L L C - Type SCS0

Alternate Floor Mat Material* - (Optional) - Floor mat material nominal 3/8 in. thick loose laid over the subfloor.

System No. 3

Subflooring - Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Floor Mat Materials* - (Optional) - Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer.

ECORE INTERNATIONAL INC - Type QTiscu 4002

HACKER INDUSTRIES INC - Type Hacker Sound-Mat

Alternate Floor Mat Materials* - (Optional) - Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer.

ECORE INTERNATIONAL INC - Type QTbrm 3006-3

HACKER INDUSTRIES INC - Type Hacker Sound-Mat II

Alternate Floor Mat Materials* - (Optional) - Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor.

HACKER INDUSTRIES INC - FIRM-FILL SCM 125

Alternate Floor Mat Materials* - (Optional) - Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor.

HACKER INDUSTRIES INC - Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials* - (Optional) - Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor.

HACKER INDUSTRIES INC - FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials* - (Optional) - Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor.

HACKER INDUSTRIES INC - Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath - (Optional) - For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material.

Finish Flooring - Floor Topping Mixture* - Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi.

HACKER INDUSTRIES INC - Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 4

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi.

HACKER INDUSTRIES INC - FIRM-FILL SCM 400, Quiet Qurl 60/040

ELASTIZELL CORP OF AMERICA - Type FF

System No. 5

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 1 in. thickness of floor topping mixture having a min compressive strength of 1000 psi.

LITE-CRETE INC - Type I

System No. 6

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi.

MAXXON CORP - Type D-C, GC, GC2000, L-R, T-F, CT, SS

RAPID FLOOR SYSTEMS - Type RF, RFP, RFL, RFR, Ortecrete

Floor Mat Materials* - (Optional) - Floor mat material loose laid over the subfloor.

MAXXON CORP - Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP, Enkasonic 9110 HP, Acousti-Mat 3, Acousti-Mat 3 HP, Acousti-Mat LP, Acousti-Mat LP-R, Acousti-Mat LP-R, Acousti-Mat SD

Floor Mat Reinforcement* - (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping over each floor mat material, grimes, and use of crack suppression reinforcement.

MAXXON CORP - Crack Suppression Mat (CSM) or Maxxon Reinforcement (MR)

Metal Lath - (For use with or as an alternate to Crack Suppression Mat (CSM) or Maxxon Reinforcement (MR)) - 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

System No. 7

Deleted

System No. 8

Subflooring - Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing".

Finish Floor - Mineral and Fiber Board* - Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft.

HOMASOTE CO - Type 440-32 Mineral and Fiber Board

System No. 9

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi.

MAXXON CORP - Type D-C, GC, GC2000, L-R, T-F, CT, SS

AERIX INDUSTRIES - Floor Topping Mixture

System No. 10

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 3/4 or 1 in. thickness of floor topping for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi.

ALLIED CUSTOM GYPSUM - Accu-Crete, AccuRadiant, AccuLevel G40 and AccuLevel SD30.

Alternate Floor Mat Material* - (Optional) - Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor.

ALLIED CUSTOM GYPSUM - Type AccuQuiet P80, Type AccuQuiet C40, AccuQuiet D13, and Type AccuQuiet D-18.

System No. 11

Subflooring - 23/32 in. thick wood structural panels, min grade "Underlayment".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 3/4 in. thickness of floor topping having a min compressive strength of 2100 psi.

System No. 12

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring* - Min 3/4 in. thickness of floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance.

Floor Mat Materials* - (Optional) - Nom. 1/4 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 13

Subflooring - Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor".

Gypsum Board* - One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joints.

GEORGIA-PACIFIC GYPSUM L L C - Type DS

Floor Mat Materials* - (As an alternate to the single layer gypsum board) - Floor mat material loose laid over the subfloor.

MAXXON CORP - Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP, Acousti-Mat 3, Acousti-Mat 3 HP, Enkasonic 9110, Enkasonic 9110 HP, Acousti-Mat LP-R.

Gypsum Board* - (For use when floor mat is used) - Two layers of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joints on top of the floor mat material.

GEORGIA-PACIFIC GYPSUM L L C - Type DS

System No. 14

Subflooring - Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing".

Vapor Barrier - (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* - Min 3/4 or 1 in. thickness of floor topping for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi.

DEPENDABLE LLC - GSI, M3.4, GSI K2.6 or GSI, RH

Floor Mat Materials* - (Optional) - Nom. 1/4 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* - (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor.

KEENE BUILDING PRODUCTS CO INC - Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

PROJECT:

1330 Building

1330 15th Street, Miami Beach, FL 33139

PROJECT OWNER:

NOTUS LLC 435 21st Street, Miami Beach, FL 33139

ARCHITECT OF RECORD:



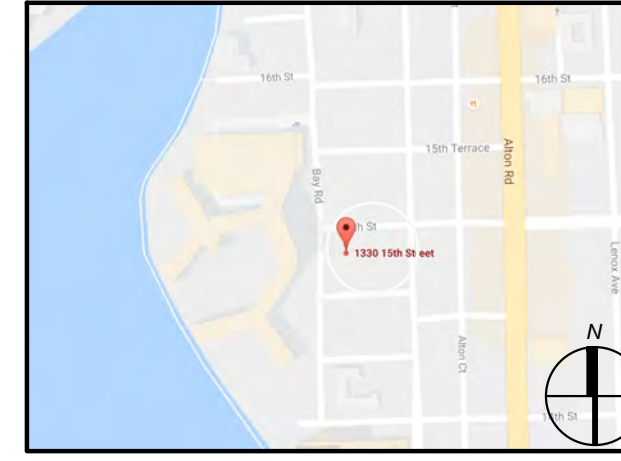
RD Architects 1800 SW 1st Avenue, Suite 607, Miami, Florida 33129 F: 786.762.2679 P: 305.831.8079 C: 305.282.0005 Email: rda@rda-archint.com www.rda@rda-archint.com

AA26002510

STRUCTURAL ENGINEER:

CONSULTANT:

KEY PLAN



SIGNATURE / DATE / SEAL

Victor H. Rodriguez, Registered Architect State of Florida # AR0094965 786.762.2679 v.h.rodriguez@rda-archint.com

PERMIT SET

Issue Date / For (1) 08.28.2016 / Design Review Board

DDCI Project #: 1615.00

Drawn by: URB

Approved by: VHR

SHEET INDEX

SCALE:

SHEET NO.

A-7.3

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AA26002510
STRUCTURAL ENGINEER:

CONSULTANT:



SIGNATURE / DATE / SEAL

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PERMIT SET

Issue Issue Date / For
(1) 08.28.2016 / Design Review Board

DDCI Project #: 1615.00

Drawn by: URB

Approved by: VHR

SHEET INDEX

SCALE:

SHEET NO.

A-7.4

Product Information **HILTI**

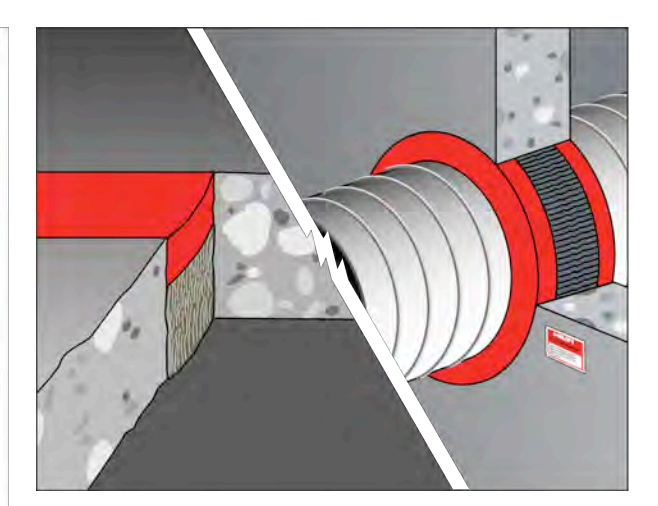
CP 606 Flexible Firestop Sealant

Product description
An acrylic based firestop sealant that provides movement capability in fire rated joint applications.

Areas of application
• Sealing construction/expansion joints
• Top-of-wall joints
• Metal pipes
• Cable bundles
• HVAC penetrations*

For use with
• Various base materials such as masonry, concrete, metal, etc.
• Wall and floor assemblies rated up to 3 hours

Examples
• Where a gypsum wall assembly meets the underside of a metal or concrete deck
• Sealing expansion joints to impede the passage of fire, smoke and toxic fumes
• Sealing around HVAC penetrations through fire-rated assemblies



Internationally tested and approved
UL, British Standard BS 476

System advantages/Customer benefits
• Fireable
• Meets 500 cycle requirements (ASTM E 1399 & UL 2079)
• Smoke, fume and water resistant
• Easy clean up with water

CP 606 Flexible Firestop Sealant

Description	Color	Package Contents	Volume	Item No.
CP 606, tube	red	10.5oz (310 ml)	18 in ³	00337191
CP 606, foil	white	(Qty 20) 20.2oz (600 ml)	36 in ³	00314272
CP 606, foil	red	(Qty 20) 20.2oz (600 ml)	36 in ³	00337192
CP 606, pail	red	5 gallons (18 liter)	1155 in ³	00337193
CB 200 PI-300/310 ml Dispenser				00052025
600 ml Foil Dispenser				00024689



* For metal ducts with damper, consult damper manufacturer.

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HILTI **Installation Instructions**

CP 606 Flexible Firestop Sealant

Product description
An acrylic based firestop sealant that provides movement capability in fire rated joint applications.

Product features
• Silicone free
• Halogen, asbestos and solvent free
• UV-resistant

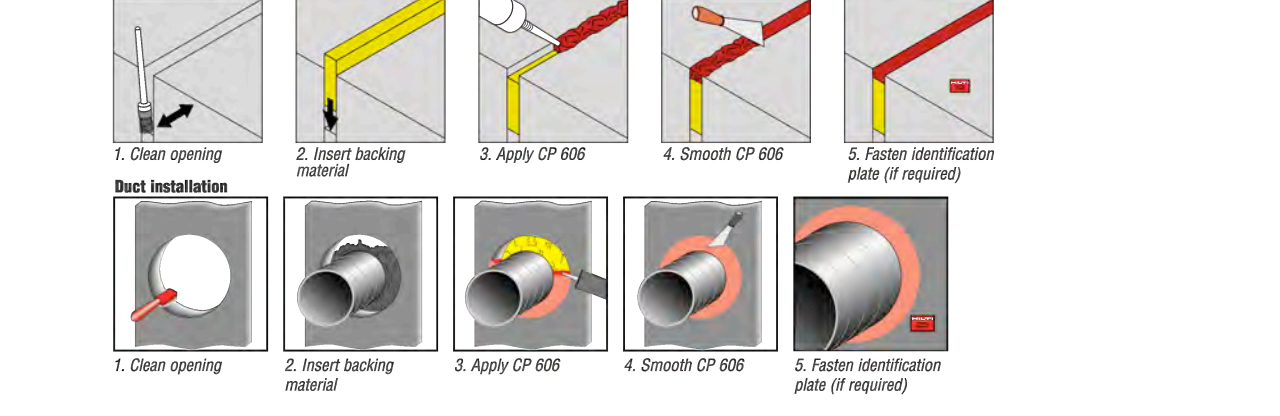
Tested in accordance with
• UL 2079
• ASTM E 1399
• UL 1479
• ASTM E 814
• ASTM E 84

Technical Data CP 606 Flexible Firestop Sealant
(at 73°F (23°C) and 50% relative air humidity)

Density: Approx. 1.5 g/cm³
Color: Red and White
Application temperature: 40°F (5°C) to 77°F (25°C)
Skin-forming time: Approx. 15 min.
Curing rate: Approx. 14F/ in 3 days
Volume shrinkage: Less than 20%
Movement capability: Approx. 10%
Temperature resistance: -42°F (-40°C) to 176°F (80°C)
Surface burning characteristics: Flame spread: 0
Smoke development: 5
Sound transmission classification: 50
(ASTM E 99-07)

Approvals
LSCJ Evaluation Service, Inc. Report No. ER-6614
California State Fire Marshal Listing no. 1452-1200-112
City of New York MEA 100-99-M

Installation instructions for CP 606



Opening
1. Clean the opening. Joint sides and surfaces to which CP 606 will be applied must be sound, dry and free from dust, oil and grease.

Application of firestop
1. Insert fill of mineral wool or backer (as required).
2. Apply firestop over backer.
3. Smooth firestop sealant with a trowel before the skin forms.
4. Once cured, CP 606 can only be removed mechanically.
5. For maintenance reasons, a penetration seal could be permanently marked with an identification plate. In such a case mark the identification plate and fasten it in a visible position next to the seal.

Notice about approvals
• When using Hilti CP 606 Flexible Firestop Sealant, check that the joint or pipe application has been sealed according to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Manual.

Not to be used...
• On areas immersed in water.

Safety precautions
• Keep out of reach of children
• Read the Material Safety Data Sheet
• Eyes and hands must be suitably protected
• Avoid contact with eyes/skin
• Only use in well ventilated areas

Storage
• Store only in the original packaging in a location protected from moisture at a temperature of 40°F (5°C) to 77°F (25°C)
• Observe expiration date on package

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UL ONLINE CERTIFICATIONS DIRECTORY

Design No. U914 BXUV.U914 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.
• 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 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.

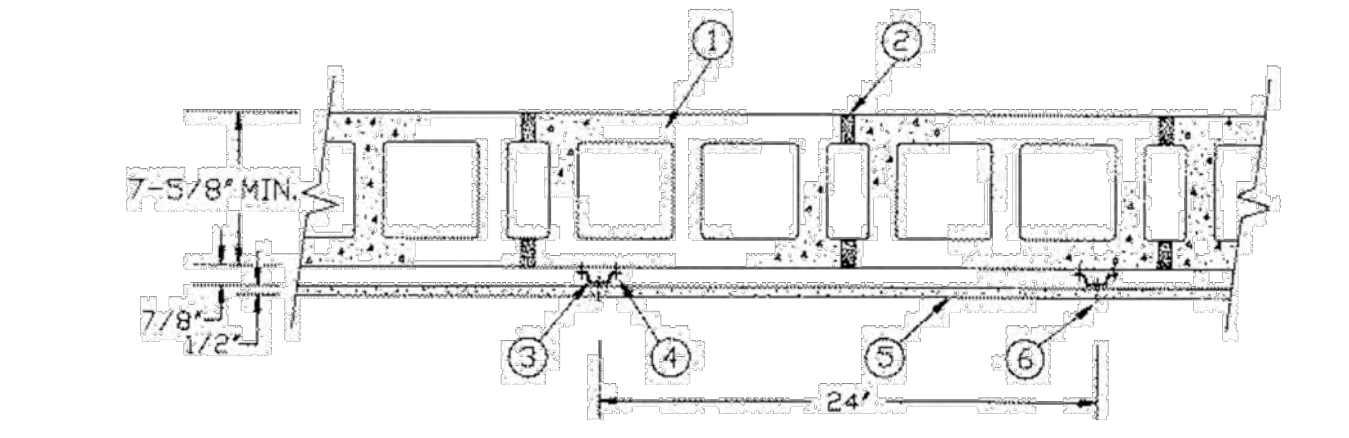
BXUV - Fire Resistance Ratings - ANSI/UL 263 BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U914
August 31, 2015
Bearing Wall Rating - 3 HR.
Nonbearing Wall Rating - 3 HR.

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.



- 1. **Concrete Blocks*** - Various designs. Classification D-2 (2 hr). See **Concrete Blocks** category for list of eligible manufacturers.
- 2. **Mortar** - Blocks laid in full bed of mortar, nom 3/8 in. thick, of net less than 2-1/4 and not more than 3-1/2 parts clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.
- 3. **Furring Channels** - Min 0.019 in. thick (25 gauge) galv steel, 1-3/8 in. wide on top and 2-9/16 in. or 2-3/4 in. or 2-

- 23/32 in. wide at bottom by 7/8 in. deep. Spaced 24 in. OC perpendicular to floor with a channel parallel to and approximately 3 in. above floor and 3 in. below ceiling. Clearance between vertical and horizontal channels 1/2 in.
- 4. **Channel Fasteners** - 1-1/4 in. long masonry screws with 3/16 in. body and 5/16 in. diameter head. Fasteners spaced 24 in. O.C. with the fasteners staggered on each long leg of the furring channel.
- 4A. **Steel Framing Members*** - Alternate method used to attach furring channels (Item 3) to concrete blocks (Item 1). Clips spaced 48 in. O.C. and secured to blocks with 1/4 in. dia. By 3 in. long concrete expansion anchor (Item 4B) through the center grommet. 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. 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).
- 4B. **Concrete Expansion Anchor** - (Not Shown) - 1/4 in. dia. by 3 in. long carbon steel, pre-assembled, nail drive expansion anchor with mushroom head driven into the web of the concrete block. Min. embedment in concrete block of 1-3/8 in. and evaluated in accordance with ASTM E 488 to have ultimate load capacities of 980 lbs (tension) and 1400 lbs (shear) when used in 2000 psi concrete.
- 4C. **Steel Framing Members*** - (Not Shown) - Alternate method used to attach furring channels (Item 3) to concrete blocks (Item 1). Clips spaced 24 in. O.C., and secured to blocks with 1/4 in. dia. by 3 in. long concrete expansion anchor (Item 4B) through the center hole. Ends of adjoining channels are overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Furring channels are friction fitted into clips. Side joint furring channels shall be attached to concrete block with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.
- STUCCO BUILDING SYSTEMS** - RESILMOUNT Sound Isolation Clips - Type A237R
- 5. **Gypsum Board*** - 1/2 in. thick, 4 ft wide, secured to furring channels with wallboard fasteners (Item 6). Gypsum plaster not more than 1/16 in. thick may be applied to wallboard in addition to joint treatment.
- ACADIA DRYWALL SUPPLIES LTD** - Type C.
- AMERICAN GYPSUM CO** - Types AG-C.
- CERTAINTED GYPSUM INC** - Type C.
- CGC INC** - Types C, IP-X2, IPC-AR.
- CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C** - Type LGFC-C/A.
- GEORGIA-PACIFIC GYPSUM L L C** - Types S, 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
- THAI GYPSUM PRODUCTS PCL** - Type C.
- UNITED STATES GYPSUM CO** - Types C, IP-X2, IPC-AR.
- USG BORAL ZAWAWI DRYWALL L L C SFZ** - Type C
- USG MEXICO S A DE C V** - Types C, IP-X2, IPC-AR.

5A. **Gypsum Board*** - (As an alternate to Item 5) - 5/8 in. thick. Installed as described in Item 5.
NATIONAL GYPSUM CO - Type FSMR-C.

6. **Wallboard Fasteners** - 1 in. long, self-drilling, self-tapping steel screws with bugle heads. Fasteners attached to each furring channel and spaced 8 in. OC at butt joints and 12 in. OC in the field of the board parallel with furring channels. Clearance between fasteners and edges of wallboard 3/4 in.

7. **Joint System - (Not shown)** - Paper tape embedded in cementitious compound over joints. Paper tape and exposed screw heads covered with two layers of compound. Edges of compound feathered out.

* 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 2015-08-31
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