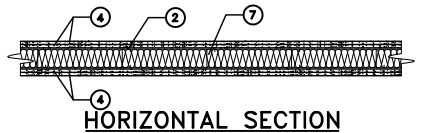
FIRE-RATED WALL DETAIL

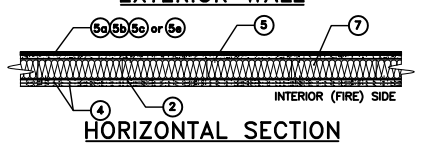
NTS

INTERIOR WALL



HORIZONTAL SECTION

EXTERIOR WALL



HORIZONTAL SECTION

UL DESIGN NO. U425

(For Exterior Walls, Ratings Applicable

For Exposure To Fire On Interior Face Only
(See Items 4 and 5)

Bearing Wall Rating– 45 Min., 1, 1½ or 2 Hr.
(See Items 2 and 4)

(1) **STEEL FLOOR AND CEILING TRACKS**–– (Not shown)– Top and bottom tracks of wall assemblies shall consist of steel members, min. No. 20 MSG (0.0329 in. min. bare metal thickness) steel or min. No. 20 GSG(0.036 in. thick) galv. steel or No. 20 MSG (0.033 in. thick) primed steel that probede a sound structural connection betweel steel studs, and to adjacent assemblies with steel fasteners spaced not greater than 24 in. O.C.

(2) **STEEL STUDS**–– Corrosion protected steel studs, min. No. 20 MSG (0.0329 in. min. bare metal thickness) steel or min. 3⅝ in. wide, min. primed steel, cold formed, shall be designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design detains enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/ or producer, and shall meet the requirements of all applicable local code agencies. The max. stud spacing of wall assemblies shall not exceed 24 in. O.C. (or 16 in. O.C.– See Item 5C). Studs attached to floor and ceiling tracks with ½ in. long Type S–12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

(3) **LATERAL SUPPORT MEMBERS**––(Not shown)– Where required for lateral support of studs, support may be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

(4) **GYPSUM BOARD***–– Gypsum wallboard bearing the ULI Classification Marking as to Fire Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally. The thickness and number of layers and percent of design load for the 45 min., 1 hr., 1½ hr. and 2 hr. ratings are as follows:

INTERIOR WALLS

RATING	WALLBOARD PROTECTION BOTH SIDES OF WALL– NO OF LAYERS & THKNS OF BOARD IN EACH LAYERS	% OF DESIGN LOAD
45 Min.	*1 layer, ½ in. thick	100
1 hr.	*1 layer, ⅝ in. thick	100
1½ hr.	*2 layers, ½ in. thick	100
2 hr.	*2 layers, ⅝ in. thick or	80
	*3 layers, ½ in. thick	100
	*2 layers, ¾ in. thick	100

*Ratings applicable to assemblies serving as exterior walls where Classified fire resistive gypsum sheathing type wallboard is substituted on the exterior face.

EXTERIOR WALLS

RATING	WALLBOARD PROTECTION ON INTERIOR SIDE OF WALL– NO. OF LAYERS & THKNS OF BOARD IN. EACH LAYERS	% OF DESIGN LOAD
45 min.	*1 layer, ⅝ in. thick	100
1 hr.	*2 layers, ½ in. thick	100
1½ hr.	*2 layers, ⅝ in. thick	100
2 hr	*3 layers, ½ in. thick	100
	*2 layers, ¾ in. thick	100

SEE GYPSUM BOARD (CKNX) CATEGORY– for names of Classified Companies of ½ in. or ⅝ in. thick wallboard. See below for Classified Company of ¾ thick wallboard.

CANADIAN GYPSUM COMPANY– Type IP–X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.
UNITED STATES GYPSUM CO.– Type IP–X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.
USG MEXICO S A DE C V– Type IP–X3, ULTRACODE, ULTRACODE SHC, or ULTRACODE WRC.

(4a) **GYPSUM BOARD***–– (As an alternate to ⅝ in. thick wallboards in Item 4)– Nom.¾ in. thick.
CANADIAN GYPSUM COMPANY– Types AR, IP–AR.
UNITED STATES GYPSUM CO– Types AR, IP–AR.
USG MEXICO S A DE C V– Types AR, IP–AR.

(6) **GYPSUM SHEATHING**––For exterior walls, ½ or ⅝ in. thick exterior regular gypsum sheathing applied vertically and attached to studs and runner tracks with 1 in. long Type S–12 bugle head screws spaced 12 in. O.C. along studs and tracks. One of the following exterior facings are to be applied over the gypsum sheathing.
a. Siding, brick or stucco– Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min., 3⅝ in. thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on either face. Brick veneer wall attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
b. Mineral and Fiber Boards*– Exterior hard board paneling, chemically treated over gypsum sheathing with primed or finished face, 7/16 in. thick by 48 in. wide. Attached to studs over gypsum sheathing with 1⅞ in. long bugle head TEK fasteners 16 in. O.C. at the intermediate supports. Or, exterior lap siding, chemically treated, 7/16 in. thick by 8 in. or 12 in. wide. Attached to studs with 1⅞ in. long, bugle–head Type TEK fasteners at each lap. Panels lapped minimum 1 in.
MASONITE CORP.– Type FT
c. Cementitious Backer Units*–½ or ⅝ in. thick, square edge boards, attached to steel studs over gypsum sheathing with 1⅝ in. long, Type S–12, corrosion resistant, wafer head steel screws, spaced 8 in. O.C. Studs spaced a max. of 16 in. O.C. Joints covered with glass fiber mesh tape.
UNITED STATES GYPSUM CO.– Durock Exterior Cement Board or Durock Brand Cement Board.
d. Fiber Cement Siding– Fiber–cement exterior sidings including smooth and patterned panel or lap siding.
e. Molded Plastic*– Solid vinyl siding mechanically secured to framing members in accordance with the manufacturers recommended installation details.
ASSOCIATED MATERIALS INC.
ALSIDE, DIV. OF
HEARTLAND BUILDING PRODUCTS, INC.
NEBRASKA PLASTICS, INC.

(6) **FASTENERS**–– (Not Shown)– Screws used to attach wallboard to studs: self–tapping bugle head sheet steel type, spaced 12 in. O.C. First layer Type S–12 by 1 in. long for ½ and ⅝ in. thick wallboards and 1⅛ in. long for ¾ in. thick wallboard. Second layer Type S–12 by 1⅝ in. long for ½ and ⅝ in. thick wallboards and 2¼ in. long for ¾ in. thick wallboard. Third layer Type S–12 by 1⅞ in. long.

(7) **BATTS AND BLANKETS***–– Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance, of a thickness to completely fill stud cavity. See batts and blankets (BZJZ) Category for names of Classified Companies.

(7A) **FIBER, SPRAYED***–– As an alternate to Batts and Blankets (Item 7)– Spray applied cellulose insulation 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 3.0 lb/ft3.
US GREENFIBER LLC– Cocoon stabilized cellulose insulation.

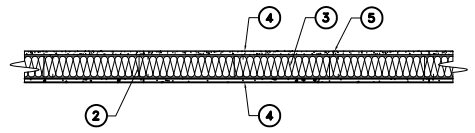
(8) **JOINT TAPE AND COMPOUND**–– (Not Shown)– Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints of outer layer.

*Bearing the UL Classification Mark

BXUV.U465
Fire Resistance Ratings – ANSI/UL 263
Page Bottom

Fire Resistance Ratings – ANSI/UL 263
See General Information for Fire Resistance Ratings – ANSI/UL 263
Design No. U465
September 27, 2005

NONBEARING WALL RATING –– 1 HR.



1. **FLOOR AND CEILING RUNNERS** –– (not shown) –– Channel shaped runners, 3–5/8 in. wide (min), 1–1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
2. **STEEL STUDS** –– Channel shaped, 3–5/8 in. wide (min), 1–1/4 in. legs, 3/8 in. folded back returns, formed from min No. 25 MSG galv steel spaced 24 in. OC max.
3. **BATTS AND BLANKETS*** –– (Optional) –– Mineral wool or glass fiber batts partially or completely filling stud cavity. See Batts and Blankets (BZJZ) 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. Nominal dry density of 3.0 lb/ft3. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3.
U S GREENFIBER L L C –– Cocoon2 Stabilized or Cocoon–FRM (Fire Rated Material)
3B. FIBER, SPRAYED* –– As an alternate to Batts and Blankets (Item 3) and Item 3A – Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU–WOOL CO INC –– Cellulose insulation
4. **GYPSUM BOARD*** –– 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to Item 6 (resilient channels) or 6A (furring channels), wallboard is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.
AMERICAN GYPSUM CO –– Types AG–C, AGX–1
BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO –– Type DBX–1.
BPB AMERICA INC –– Types 1, EGRG, ProRoc Type X, ProRoc Type C.
BPB CANADA INC –– ProRoc Type C, ProRoc Type X or ProRoc Type Abuse–Resistant.
CANADIAN GYPSUM COMPANY –– Types AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.
G–P GYPSUM CORP, SUB OF
GEORGIA–PACIFIC CORP –– Types 5, 9, C, DAP, DD, DA, DGG, DS, GPFS6.
LAFARGE NORTH AMERICA INC –– Types LGFC2, LGFC2A, LGFC6, LGFC6A, LGFC–C, LGFC–C/A.
NATIONAL GYPSUM CO –– Types FSK, FSK–C, FSK–G, FSW–C, FSW–G, FSW, FSW–3 , FSW–5.
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM –– Type PG–C or PG–9 .
PANEL REY S A –– Type PRX.
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD –– Type EX–1
STANDARD GYPSUM L L C –– Types FRX–6, VPBX–6, FRWRX–6, SHTGX–6, FRX–6 Exterior Gypsum Soffit Board, SG–C.
TEMPLE–INLAND FOREST PRODUCTS CORP –– Type X, Veneer Plaster Base – Type X, Water Rated – Type X, Sheathing – Type X, Soffit – Type X, TG–C.
UNITED STATES GYPSUM CO –– Type AR, C, FRX–G, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V –– Type AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.

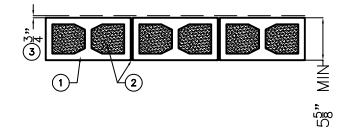
4A. GYPSUM BOARD* –– (As alternate to Item 4) – Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically.
CANADIAN GYPSUM COMPANY –– Types AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.
UNITED STATES GYPSUM CO –– T ype AR, C, FRX–G, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V –– Type AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, WRC or WRX.
4B. GYPSUM BOARD* –– (As an alternate to Items 4 or 4A) –– Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1–1/4 in.
CANADIAN GYPSUM COMPANY –– Types AR, IP–AR.
UNITED STATES GYPSUM CO –– Types AR, IP–AR.
USG MEXICO S A DE C V –– Type AR, IP–AR.
5. **JOINT TAPE AND COMPOUND** –– Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.
6. **RESILIENT CHANNEL** –– (Optional–Not Shown) –– 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S–12 panhead steel screws.
6A. STEEL FRAMING MEMBERS (Not Shown)* –– As an alternate to Item 3, furring channels and resilient sound isolation clip as described below:
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 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.
b. Steel Framing Members* –– Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with 1–5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips.
PAC INTERNATIONAL INC –– Type RSIC–1.
*Bearing the UL Classification Mark

Last Updated on 2005–09–27

BXUV.U906
Fire Resistance Ratings – ANSI/UL 263

Fire Resistance Ratings – ANSI/UL 263
Design No. U906
March 17, 2004

BEARING WALL RATING –– 2 HR.
NONBEARING WALL RATING –– 2 HR.



HORIZONTAL SECTION

1. **Concrete Blocks*** –– Nominal 6 by 8 by 16 in, hollow or solid. Classification D–2 (2 hr).
ANCHOR CONCRETE PRODUCTS INC
GAGNE & SON CONCRETE BLOCK INC

Allowable compressive stress of 57% of max allowable compressive stress in accordance with the empirical design method.

OLDCASTLE APG NE DBA ARTHUR WHITCOMB WESTBROOK CONCRETE BLOCK CO INC

Allowable compressive stress of 75.6% of max allowable compressive stress in accordance with the empirical design method.

2. **Mortar** –– Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2–1/4 and not more than 3–1/2 parts of 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. **Portland Cement Stucco or Gypsum Plaster** –– Add 1/2 hr to Classification if used. Attached to concrete blocks (Item 1).
4. **Foamed Plastic*** –– (Optional–Not Shown) –– 1–1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
THE DOW CHEMICAL CO –– Type Thermax

*Bearing the UL Classification Mark

Last Updated on 2004–03–17

FIRE SPECIFICATIONS

ST. TAMMANY PARISH ADMIN. COMPLEX
520 OLD SPANISH TRAIL
SLIDELL, LOUISIANA

RENOVATE OFFICE BUILDING

DAMMON ENGINEERING. INC.
1095 FLORIDA AVENUE 985-649-5832 SLIDELL, LA. 70458
DAMMONENGINEERING.COM

SCALE:AS NOTED

FILE:

JOB NO. 1729

DATE:1–8–07

SHEET
A.20
OF