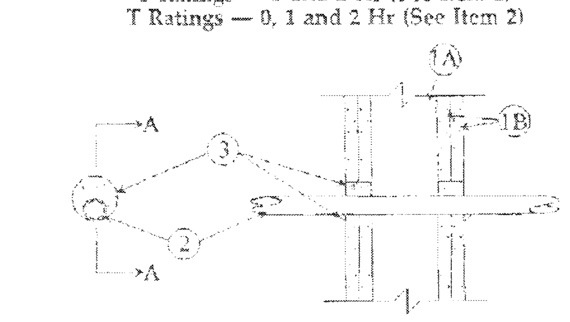
System No. W-L-2088

F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1 and 2 Hr (See Item 2)



SECTION A-A

1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.
   B. **Gypsum Board*** — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Diam of opening shall be 7/8 in. larger than the outside diam of nonmetallic pipe or conduit (Item 2).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrants** — One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space for nom 1-1/4 in. diam and smaller between the pipe or conduit and periphery of opening shall be min 0 in. (point contact) to max 7/8 in. The annular space for pipe or conduit greater than nom 1-1/4 in. diam between the pipe or conduit and periphery of opening shall be min 1/2 in. to max 1 in. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. **Polyvinyl Chloride (PVC) Pipe** — Nom 3 in. diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) piping system.
   D. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 3 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) piping systems.
   E. **Rigid Nonmetallic Conduit++** — Nom 3 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No 70).
   F. **Electrical Nonmetallic Tubing (ENT)++** — Nom 1 in. diam (or smaller) ENT formed of PVC, installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70).
   See **Rigid Nonmetallic Conduit** (DZKT) and **Electrical Nonmetallic Tubing** (FKHU) in UL Construction Materials Directory for names of manufacturers.
   G. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom. 2 in. diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   The hourly T Rating is dependent on the hourly rating of the wall assembly, the pipe or conduit size and whether the pipe is intended for use as a closed or vented system, as shown in the following table.

Nom Pipe Diam In.	Wall Assembly Rating Hr	Closed (c) or Vented (v)	T Rating Hr
1/2 to 3	1	c	1
1/2 to 1-1/4	1	v	1
1/2 to 1-1/4	2	c	2
1/2 to 1-1/4	2	v	1
2	1	v	0
2	2	v	0

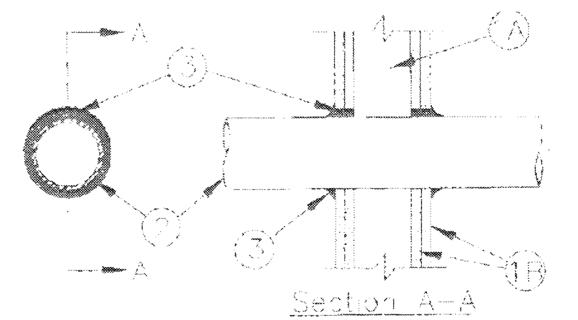
3. **Fill, Void or Cavity Materials* — Caulk or Putty** — Min thickness of 5/8 in. and 1-1/4 in. of caulk or putty for 1 and 2 hr rated wall assemblies, respectively, applied within annulus between pipe or conduit and periphery of the opening, flush with both surfaces of wall assembly. At the point contact location between pipe or conduit and gypsum wallboard, a min 1/2 in. diam bead of caulk or putty shall be applied at the pipe or conduit/wallboard interface on both surfaces of wall assembly.
   MINNESOTA MINING & MFG CO —CP 25WB+, MPS-2+

++Bearing the UL Listing Mark.
*Bearing the UL Classification Mark

RATED ASSEMBLY W-L-2088 (5)
SCALE: NONE

System No. W-L-1085

F Ratings — 1 and 2 Hr (See Item 1B)
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft



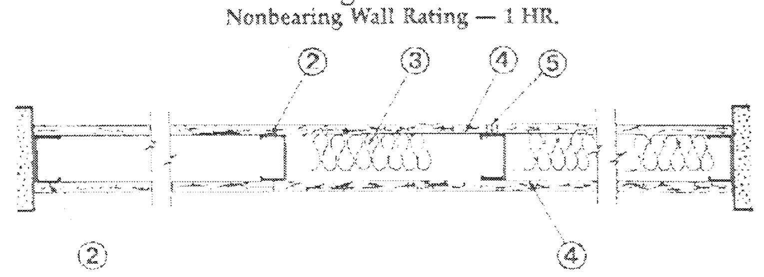
1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. **Gypsum Board*** — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 13-1/4 in.
   Diam of circular opening cut through gypsum wallboard on each side of wall assembly to be min 1/4 in. to max 1/2 in. larger than outside diam of through penetrant (Item 2). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrants** — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The annular space between the through-penetrant and the periphery of the opening shall be min 0 in. to max 1/4 in. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** — Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** — Nom 12 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** — Nom 6 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
   D. **Copper Tubing** — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. **Fill, Void or Cavity Material* — Sealant** — Fill material to be forced into the annulus to maximum extent possible. Additional fill material to be installed such that a min 1/2 in. crown is formed around the penetrating item and lapping 1/4 in. beyond the periphery of the opening.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

RATED ASSEMBLE W-L-1085 (4)
SCALE: NONE

Design No. U465

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 (min No. 20 MSG when Item 4C is used) 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 (min No. 20 MSG when Item 4C is used) 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.
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 (furring channels), wallboard is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.
   AMERICAN GYPSUM CO —Type AG-C.
   BEIJING NEW BUILDING MATERIALS CO LTD —Type DBX-1.
   BPB AMERICA INC
   BPB CELOTEX —Type 1.
   CANADIAN GYPSUM COMPANY —Types AR, C, IP-AR, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
   CONTINENTAL GYPSUM COMPANY —Types CG-C, CG5-5, CG6-6, CG9-9, CGTC-C.
   G-P GYPSUM CORP, SUB OF
   GEORGIA-PACIFIC CORP —Types 5, 9, C, DGG, DS, GPFS6.
   JAMES HARDIE GYPSUM INC —Type Max "C" or Fire X.
   LAFARGE GYPSUM, DIV OF
   LAFARGE CORP —Types LGFC2, LGFC2A, LGFC6, LGFC6A, LGFC-C, LGFC-C/A.
   NATIONAL GYPSUM CO —Types FSK-C, FSK-G, FSW-C, FSW-G, FSW .

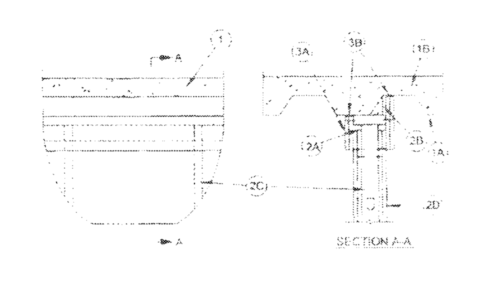
Fire Resistance Ratings - ANSI/UL 263 (BXUV)—*Continued*

   PABCO GYPSUM, DIV OF
   PACIFIC COAST BUILDING PRODUCTS INC —Type PG-C.
   REPUBLIC GYPSUM CO —Type RG-C.
   SIAM GYPSUM INDUSTRY CO LTD —Type EX-1
   STANDARD GYPSUM L L C —Type SG-C.
   TEMPLE-INLAND FOREST PRODUCTS CORP —Type TG-C.
   UNITED STATES GYPSUM CO —Type AR, C, FRX-G, IP-AR, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
   YESO PANAMERICANO S A DE C V —Type AR, C, IP-AR, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
   WESTROC INC —Type Westroc Fireboard.

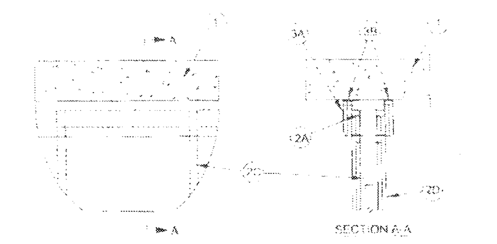
4A. **Gypsum Board*** — (As an alternate to Item 4) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4 with screw length increased to 1-1/4 in.
   CANADIAN GYPSUM COMPANY —Types AR, IP-AR.
   UNITED STATES GYPSUM CO —Types AR, IP-AR.
   YESO PANAMERICANO S A DE C V —Types AR, IP-AR.
4C. **Gypsum Board*** — (As an alternate to Item 4, 4A and 4B) — 5/8 in. thick gypsum panels, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 4.
   CANADIAN GYPSUM COMPANY —Type FRX.
   UNITED STATES GYPSUM CO —Type FRX.
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. **Furring Channel** — (Optional Not Shown) — Resilient 25 MSG galv steel furring channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 panhead steel screws. Not for use with Type FRX gypsum panels.

*Bearing the UL Classification Mark

RATED ASSEMBLY U465 (3)
SCALE: NONE



CONFIGURATION B



CONFIGURATION C

Joint Systems (XHBN)—*Continued*

1. **Floor Assembly** — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the following construction features:
   A. **Steel Floor and Form Units*** — Max 3 in. deep galv fluted floor units.
   B. **Concrete** — Min 2-1/2 in. thick reinforced (100-150 pcf) concrete, as measured from the top plane of the floor units.

1A. **Roof Assembly** — As an alternate to Item 1, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 3 in. deep galv steel fluted roof units. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. In the case of spray-applied protection materials on the steel roof units, the joint system shall be installed prior to the spray-applied protection material.

1B. **Floor Assembly** — As an alternate to Item 1, min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.

2. **Wall Assembly** — The 1, 2 or 3 hr fire-rated gypsum board /steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 and V400-Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Light Gauge Framing* - Deflection Trak** — Deflection trak of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2C) and with offset legs to accommodate wall cladding (Item 3A). Deflection trak installed parallel or perpendicular to the floor units. When installed perpendicular (Configuration A), min No. 25 gauge deflection trak secured on both sides to valley of floor units with 1-1/2 in. long welds spaced max 12 in. OC. Min No. 20 guage deflection trak may be secured with steel fasteners spaced 12 in. OC. When installed parallel (Configuration B), min No. 25 gauge deflection trak secured on one side to valley of floor units with 1-1/2 in. long welds spaced 12 in. OC. Min No. 20 gauge deflection trak may be secured with steel fasteners spaced max 12 in. OC. The other side of the deflection trak is secured to Z-Furring clips (Item 2B) with two No. 8 by 1/2 in. long tec screws. On concrete floor (Configuration C), min No. 20 gauge deflection trak attached to concrete at ceiling with steel fasteners spaced max 12 in. OC.
   FIRE TRAK CORP —Shadowline
   B. **Z-Furring - (Parallel Units)** — When trak is installed parallel to floor units, Z-Furring clips are attached to the bottom of the floor units within the crests with two steel fasteners . Clip spacing not to exceed 24 in. OC.
   C. **Studs** — Steel studs to be min 2-1/2 in. wide and as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Studs cut 1-1/2 in. less in length than the assembly height with bottom nesting in and resting on floor runner and

Joint Systems (XHBN)—*Continued*

with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. OC.
   D. **Gypsum Board*** — Gypsum board sheets installed and attached to studs and runners as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a nominal 1 in. gap shall be maintained between top of the gypsum board and the bottom flange of the deflection trak. Top row of screws shall be installed into the studs 3 in. below the top edge of the gypsum board sheets.

The hourly assembly rating of the joint system is equal to the fire rating of the wall.

Firestop Configuration A

3. **Joint System** — **Max separation between bottom flange of the deflection trak and top of wallboard (at the time of installation of the joint system) is 1 in. The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:
   A. **Packing Material** — Min 4 pcf density mineral wool batt insulation cut to the shape of the fluted deck, 25 percent larger than the area of the flutes and compressed into the flutes of the steel floor units above the ceiling runner as a permanent form.
   B. **Wall Cladding** — Strips of the gypsum board material cut to the contour of the steel floor units and attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. OC. The top of the wall cladding shall be recessed min 1/8 in. to max 1/2 in. from the steel floor units and overlap the gypsum board 4 in.
   C. **Fill, Void or Cavity Material*** — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding.
   DAP INC —DAP Firestop Sealant
   PASSIVE FIRE PROTECTION PARTNERS —4100NS, 4800DW
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS611A or FS-ONE
   INSTANT FIRESTOP MFG INC —344-GG
   JOHNS MANVILLE INTERNATIONAL INC —Firetemp CI
   MINNESOTA MINING & MFG CO —FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+
   NATIONAL GYPSUM CO —FS-90
   NUCO INC —Self Seal GG-200
   RECTORSEAL —Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100
   SPECIFIED TECHNOLOGIES INC —SpecSeal ES Sealant
   TREMCO INC —TREMstop Acrylic
   UNITED STATES GYPSUM CO —FC, RFC
   W R GRACE & CO - CONN
   CONSTRUCTION PRODUCTS DIV —FS3000, FS3001, FS3005

Firestop Configuration B

3. **Joint System — Max separation between bottom flange of the deflection trak and top of wallboard (at the time of installation of the joint system) is 1 in. The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:
   A. **Wall Cladding** — Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. OC. The top of the wall cladding shall be recessed min 1/8 in. to max 1/2 in. from the steel floor units and overlap the gypsum board 4 in.
   B. **Fill, Void or Cavity Material*** — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding.
   DAP INC —DAP Firestop Sealant
   PASSIVE FIRE PROTECTION PARTNERS —4100NS, 4800DW
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS611A or FS-ONE
   INSTANT FIRESTOP MFG INC —344-GG
   JOHNS MANVILLE INTERNATIONAL INC —Firetemp CI
   MINNESOTA MINING & MFG CO —FB 1000NS, FB 2000,

Joint Systems (XHBN)—*Continued*

   FB 2000+, FD-150+, CP 25 WB+
   NATIONAL GYPSUM CO —FS-90
   NUCO INC —Self Seal GG-200
   RECTORSEAL —Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100
   SPECIFIED TECHNOLOGIES INC —SpecSeal ES Sealant
   TREMCO INC —TREMstop Acrylic
   UNITED STATES GYPSUM CO —FC, RFC
   W R GRACE & CO - CONN
   CONSTRUCTION PRODUCTS DIV —FS3000, FS3001, FS3005

Firestop Configuration C

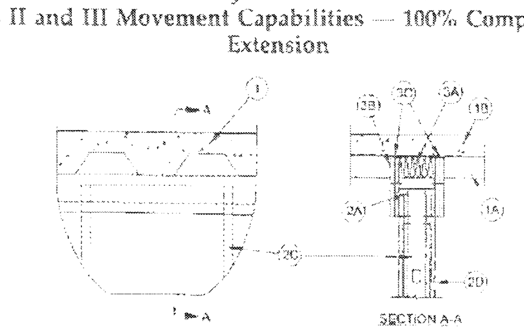
3. **Joint System — Max separation between bottom flange of the deflection trak and top of wallboard (at the time of installation of the joint system) is 1 in. The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:
   A. **Wall Cladding** — Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. OC. The top of the wall cladding shall be recessed min 1/8 in. to max 1/2 in. from the bottom of the concrete floor and overlap the gypsum board 4 in.
   B. **Fill, Void or Cavity Material*** — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the bottom of the concrete floor, flush with each surface of the cladding.
   DAP INC —DAP Firestop Sealant
   PASSIVE FIRE PROTECTION PARTNERS —4100NS, 4800DW
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS611A or FS-ONE
   INSTANT FIRESTOP MFG INC —344-GG
   JOHNS MANVILLE INTERNATIONAL INC —Firetemp CI
   MINNESOTA MINING & MFG CO —FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+
   NATIONAL GYPSUM CO —FS-90
   NUCO INC —Self Seal GG-200
   RECTORSEAL —Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100
   SPECIFIED TECHNOLOGIES INC —SpecSeal ES Sealant
   TREMCO INC —TREMstop Acrylic
   UNITED STATES GYPSUM CO —FC, RFC
   W R GRACE & CO - CONN
   CONSTRUCTION PRODUCTS DIV —FS3000, FS3001, FS3005

*Bearing the UL Classification Mark

RAETD ASSEMBLY HW-D-0060 (CONT.) (2)
SCALE: NONE

System No. HW-D-0060

Assembly Ratings — 1, 2 and 3 Hr (See Item 2)
Nominal Joint Width — 1 IN.
Class II and III Movement Capabilities — 100% Compression or Extension

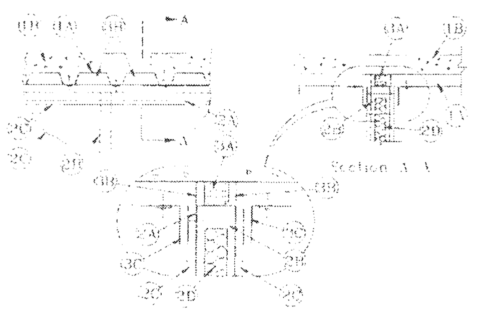


CONFIGURATION A

RATED ASSEMBLY HW-D-0060 (2)
SCALE: NONE

System No. HW-D-0001

Assembly Rating — 1 Hr
Nominal Joint Width — 5/8 in.
Class II and III Movement Capabilities— 80% Compression, 60% Extension



1. **Floor Assembly** — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Steel Floor and Form Units*** — Max 3 in. deep galv steel fluted floor units.
   B. **Concrete** — Min 2 1/2 in. thick reinforced concrete, as measured from the top plane of the floor units.

1A. **Roof Assembly** — As an alternate to Item 1 Floor Assembly, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 1-1/2 in. deep galv steel fluted roof units. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly . In the case of spray-applied protection materials on the steel roof units, the joint system shall be installed prior to the spray-applied protection material.

1B. **Floor Assembly** — As an alternate to Item 1, Floor Assembly, min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.

2. **Wall Assembly** — The 1 hr fire-rated nonbearing gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400-Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Steel Floor And Ceiling Runners** — Floor and ceiling runners of wall assembly shall consist of min 25 ga galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with 2 in. flanges. Ceiling runner secured to valleys of steel floor units (Item 1A) with steel fasteners or by welds spaced max 12 in. OC.
   B. **Studs** — Steel studs to be min 2 1/2 in. wide. Studs cut 5/8 to 1 in. less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. OC.
   C. **Gypsum Board*** — Wallboard sheets installed to a min total thickness of 1/2 in. on each side of wall. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory except that a nom 5/8 in. gap shall be maintained between the top of the wallboard and the bottom of the steel floor units.

3. **Joint System — The joint system is designed to accommodate a max 5/8 in. compression and 3/8 in. extension from its installed width.** The joint system consists of a forming material and fill material in the flutes of the steel floor units and a "slip track" detail consisting of restraining angles in combination with wallboard on the vertical flanges. When the floor assembly consists of a flat concrete slab (Item 1A), the forming material and fill material are not used. The components of the system are as follows:
   A. **Forming Material*** — Min 1 1/2 in. thickness of min 4 pcf density mineral wool batt insulation firmly packed into flutes of steel floor units above ceiling runner as a permanent form. Forming material to be recessed from edges of ceiling runner on each side of wall to accommodate the required thickness of fill material.
   THERMAFIBER L L C —Type SAF
   B. **Fill, Void or Cavity Material*** — Min 1/2 in. thickness of fill material applied within the recess of each steel floor unit flute, flush with the vertical flange of the ceiling track on each side of the wall. Dry mix material mixed with water at a rate of 2.1 parts dry mix to 1 part water, by weight, in accordance with accompanying instructions.
   B1. **Fill, Void or Cavity Material*** — Not Shown — Two component

Joint Systems (XHBN)—*Continued*

fill material used as an alternate to Item 3B. Min. 1/2 in. thickness of fill material applied within the recess of each steel floor unit flute, flush with the vertical flange of the ceiling track on each side of the wall. Ready-mixed component mixed with accelerator component at a rate of 66 parts of ready-mixed component to 1 part of accelerator component by weight in accordance with the accompanying installation instructions.
   UNITED STATES GYPSUM CO —Type RFC
   C. **Restraining Angles** — Min 2 1/2 by 2 1/2 in. angles formed from min 25 ga galv steel with one leg lined with a 2 1/2 in. wide piece of gypsum wallboard used for the wall (Item 2C). Gypsum wallboard liner secured to steel angle with min 1 in. long self-drilling, self-tapping Type S bugle head steel screws spaced max 8 in. OC. along longitudinal centerline of steel angle. Screws installed through face of wallboard such that excess screw length protrudes through leg of steel angle. Restraining angles installed along top of wall on each side of wall assembly with gypsum wallboard liner against wall surface and with horizontal leg of steel angle against valleys of steel floor units. Restraining angles secured to valleys of steel floor units or min 1/2 in. long powder-driven steel fasteners, spaced 12 in. OC.

*Bearing the UL Classification Mark

RATED ASSEMBLY HW-D-0001 (1)
SCALE: NONE

APPROVAL IS FOR CLOUDED AREAS OR LATEST REVISIONS ONLY. SEE ORIGINALS FOR OTHER REQUIREMENTS.

PLANS APPROVED ARCHITECTURAL
Building & Safety Dept.
City of Las Vegas, Nevada
DEC 0 3 2001
Does Not Include Structural, Electrical, Plumbing/Mechanical or Off-Site Improvements Make No Change Without Approval Plan is Not a Permit to Violate Any Ordinance

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CRAIG S. GALATI REGISTERED ARCHITECT No. 1952 STATE OF NEVADA OCT 0 1 2001

RATED ASSEMBLIES

SUMMERLIN ARBORS PARK
POOL AND POOL BUILDING

Revisions: △4

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