

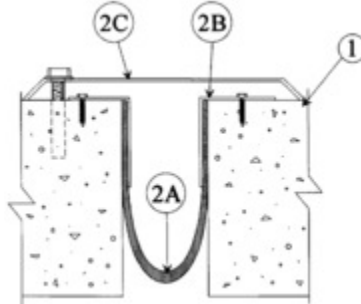
**Light Product**

Thermal Structures Part Number	Joint System UL Number	Thermal Structures Part Number	Joint System UL Number	Thermal Structures Part Number	Joint System UL Number
LFS 5800-F1	FF-D-0057	LFS 5800-W1	WW-D-0065 & WW-D-0066	LFS 5800-FW1	FW-D-0043
LFS 5800-F2	FF-D-0057	LFS 5800-W2	WW-D-0065 & WW-D-0066	LFS 5800-FW2	FW-D-0043
LFS 5800-F3	FF-D-1069	LFS 5800-W3	WW-D-1059 & WW-D-1060	LFS 5800-FW3	FW-D-1064
LFS 5800-F4	FF-D-1069	LFS 5800-W4	WW-D-1059 & WW-D-1060	LFS 5800-FW4	FW-D-1064
LFS 5800-F5	FF-D-1069	LFS 5800-W5	WW-D-1059 & WW-D-1060	LFS 5800-FW5	FW-D-1064
LFS 5800-F6	FF-D-1069	LFS 5800-W6	WW-D-1059 & WW-D-1060	LFS 5800-FW6	FW-D-1064
LFS 5800-F8	FF-D-2010	LFS 5800-W8	WW-D-2014 & WW-D-2015	LFS 5800-FW8	FW-D-2005
LFS 5800-F10	FF-D-2010	LFS 5800-W10	WW-D-2014 & WW-D-2015	LFS 5800-FW10	FW-D-2005
LFS 5800-F12	FF-D-2010	LFS 5800-W12	WW-D-2014 & WW-D-2015	LFS 5800-FW12	FW-D-2005
LFS 5800-F14	FF-D-3010	LFS-5800-W14	WW-D-3013 & WW-D-3014	LFS 5800-FW14	FW-D-3005
LFS 5800-F16	FF-D-3010	LFS 5800-W16	WW-D-3013 & WW-D-3014	LFS 5800-FW16	FW-D-3005
LFS 5800-F18	FF-D-3010	LFS 5800-W18	WW-D-3013 & WW-D-3014	LFS 5800-FW18	FW-D-3005
LFS 5800-F20	FF-D-3010	LFS 5800-W20	WW-D-3013 & WW-D-3014	LFS 5800-FW20	FW-D-3005

**Full Seismic Product**

Thermal Structures Part Number	Joint System UL Number	Thermal Structures Part Number	Joint System UL Number	Thermal Structures Part Number	Joint System UL Number
FS 5800-F1	FF-D-0003	FS 5800-W1	WW-D-0002 & WW-D-0003	FS 5800-FW1	FW-D-0003
FS 5800-F2	FF-D-0003	FS 5800-W2	WW-D-0002 & WW-D-0003	FS 5800-FW2	FW-D-0003
FS 5800-F3	FF-D-1009	FS 5800-W3	WW-D-1008 & WW-D-1009	FS 5800-FW3	FW-D-1008
FS 5800-F4	FF-D-1009	FS 5800-W4	WW-D-1008 & WW-D-1009	FS 5800-FW4	FW-D-1008
FS 5800-F5	FF-D-1009	FS 5800-W5	WW-D-1008 & WW-D-1009	FS 5800-FW5	FW-D-1008
FS 5800-F6	FF-D-1009	FS 5800-W6	WW-D-1008 & WW-D-1009	FS 5800-FW6	FW-D-1008
FS 5800-F8	FF-D-2001	FS 5800-W8	WW-D-2001 & WW-D-2002	FS 5800-FW8	FW-D-2001
FS 5800-F10	FF-D-2001	FS 5800-W10	WW-D-2001 & WW-D-2002	FS 5800-FW10	FW-D-2001
FS 5800-F12	FF-D-2001	FS 5800-W12	WW-D-2001 & WW-D-2002	FS 5800-FW12	FW-D-2001
FS 5800-F14	FF-D-3001	FS-5800-W14	WW-D-3001 & WW-D-3002	FS 5800-FW14	FW-D-3001
FS 5800-F16	FF-D-3001	FS 5800-W16	WW-D-3001 & WW-D-3002	FS 5800-FW16	FW-D-3001
FS 5800-F18	FF-D-3001	FS 5800-W18	WW-D-3001 & WW-D-3002	FS 5800-FW18	FW-D-3001
FS 5800-F20	FF-D-3001	FS 5800-W20	WW-D-3001 & WW-D-3002	FS 5800-FW20	FW-D-3001

**System No. FF-D-0003**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 1 & 2 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



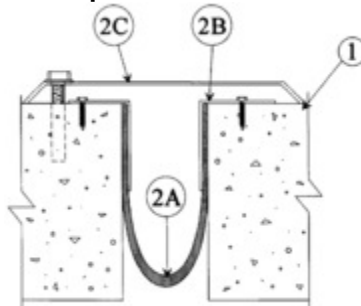
1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width. — The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	FS 5800-F1
2	FS 5800-F2

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- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
    - C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- \*Bearing the UL Classification Mark

**System No. FF-D-0057**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 1 & 2 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its

**installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

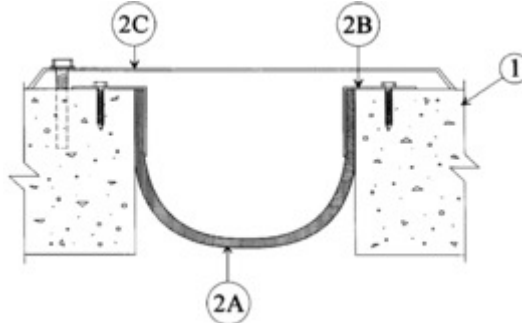
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	LFS 5800-F1
2	LFS 5800-F2

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- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-1009**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — Max width of joint (at time of installation of joint system) is 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width. The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

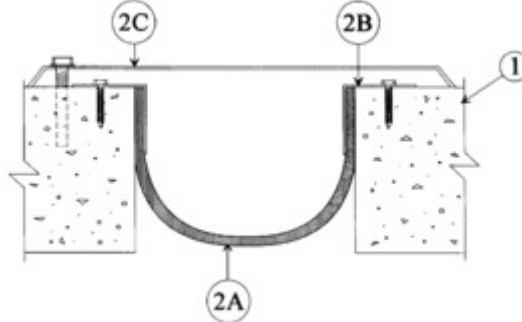
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
3	FS 5800-F3
4	FS 5800-F4
5	FS 5800-F5
6	FS 5800-F6

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- B. **Retaining Angles** — Stair-stepped 20 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provide with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-1069**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — Max width of joint (at time of installation of joint system) is 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width. The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

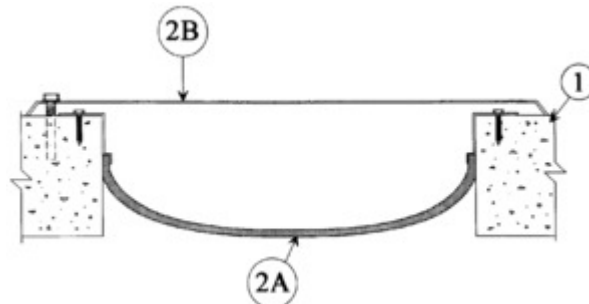
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
3	LFS 5800-F3
4	LFS 5800-F4
5	LFS 5800-F5
6	LFS 5800-F6

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- B. **Retaining Angles** — Stair-stepped 20 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provide with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
    - C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-2001**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10 & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



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1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

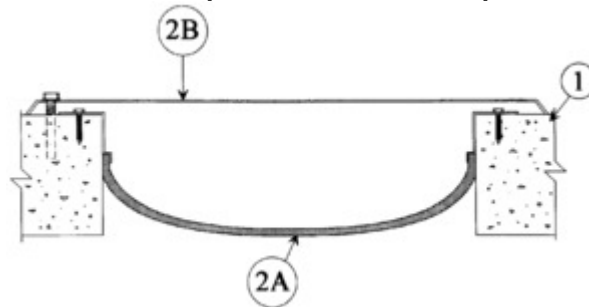
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	FS 5800-F8
10	FS 5800-F10
12	FS 5800-F12

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- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-2010**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10 & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

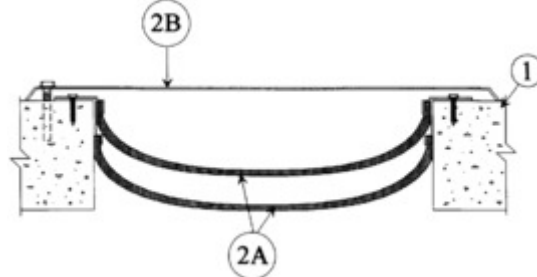
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	LFS 5800-F8
10	LFS 5800-F10
12	LFS 5800-F12

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- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-3001**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width. The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening, top or bottom. The following assemblies are to be used with the different joint sizes:

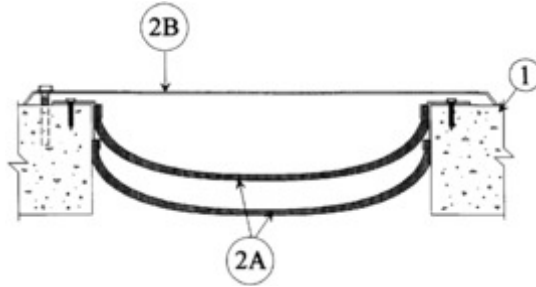
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	FS 5800-F14T FS 5800-F14B
16	FS 5800-F16T FS 5800-F16B
18	FS 5800-F18T FS 5800-F18B
20	FS 5800-F20T FS 5800-F20B

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FF-D-3010**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



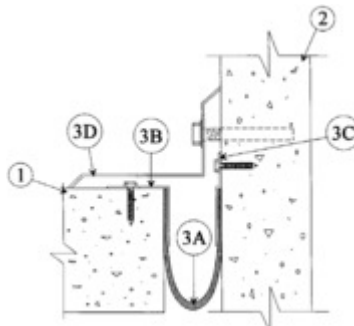
1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening, top or bottom. The following assemblies are to be used with the different joint sizes:

Nom Joint Width In.	Mechanical Joint Dsg
14	LFS 5800-F14T
	LFS 5800-F14B
16	LFS 5800-F16T
	LFS 5800-F16B
18	LFS 5800-F18T
	LFS 5800-F18B
20	LFS 5800-F20T
	LFS 5800-F20B

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- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to top side of floor, continuous over full length of joint. Cover plate attached to floor on one side of opening only with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- \*Bearing the UL Classification Mark

**System No. FW-D-0003**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 1 & 2 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural

concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

3. **Joint System** — **Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width** . The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

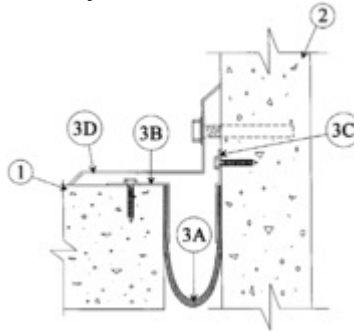
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	FS 5800-FW1
2	FS 5800-FW2

**THERMAL STRUCTURES INC**

- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Retaining Clips** — Min 24 gauge galvanized steel clips installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Clips to extend length of joint and are to be attached to wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- D. **Joint Cover** — Min 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-0043**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 1 & 2 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*.  
 See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
3. **Joint System** — **Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	LFS 5800-FW1
2	LFS 5800-FW2

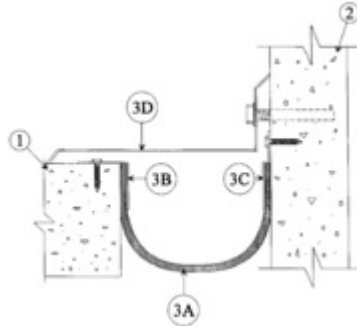


**THERMAL STRUCTURES INC**

- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Retaining Clips** — Min 24 gauge galvanized steel clips installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Clips to extend length of joint and are to be attached to wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- D. **Joint Cover** — Min 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-1008**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression,**  
**Extension or Horizontal Shear**



- 1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
- 2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- 3. **Joint System** — **Max width of joint (at time of installation of joint system) is 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
3	FS 5800-FW3
4	FS 5800-FW4
5	FS 5800-FW5
6	FS 5800-FW6

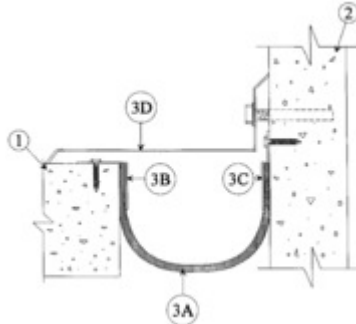
**THERMAL STRUCTURES INC**

- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Retaining Clips** — Min 24 gauge galvanized steel clips installed over metal flanges of joint assembly in accordance with installation instructions provided with the product. Clips to extend entire length of joint and are to be attached to wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- D. **Joint Cover** — Min 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full

length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-1064**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension or Horizontal Shear**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.  
 See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
3. **Joint System** — **Max width of joint (at time of installation of joint system) is 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

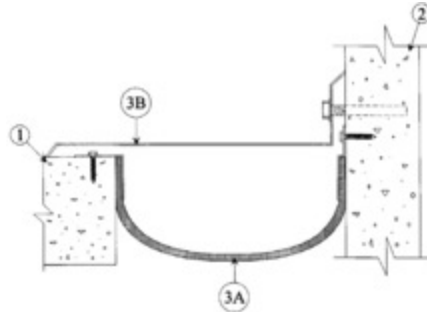
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
3	LFS 5800-FW3
4	LFS 5800-FW4
5	LFS 5800-FW5
6	LFS 5800-FW6

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- B. **Retaining Angles** — Min 24 gauge (or heavier) galvanized steel angles installed over metal flanges of joint assembly in accordance with the installation instructions provided with the product. Angles to extend entire length of joint and are to be attached to floor with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Retaining Clips** — Min 24 gauge galvanized steel clips installed over metal flanges of joint assembly in accordance with installation instructions provided with the product. Clips to extend entire length of joint and are to be attached to wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- D. **Joint Cover** — Min 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-2001**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Horizontal Shear**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
3. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor and wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

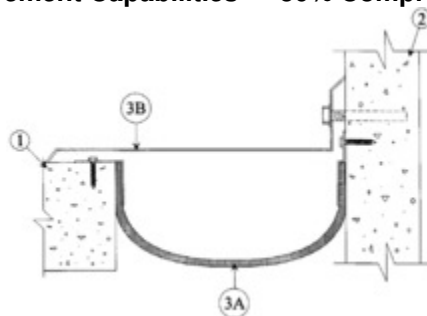
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	FS 5800-FW8
10	FS 5800-FW10
12	FS 5800-FW12

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- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-2005**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
3. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor and wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed in floor in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

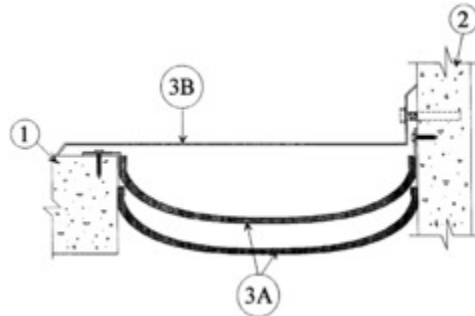
Nom Joint Width In.	Mechanical Joint Dsg
8	LFS 5800-FW8
10	LFS 5800-FW10
12	LFS 5800-FW12

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- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-3001**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Horizontal Shear**



- Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
- Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\*** See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor and wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening, top or bottom. The following assemblies are to be used with the different joint sizes:
 

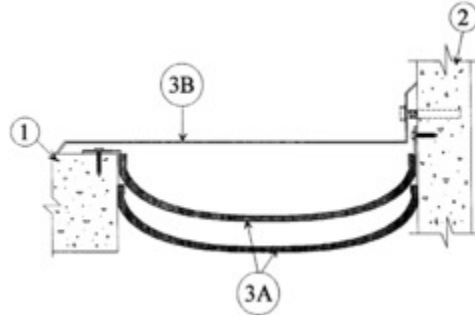
Nom Joint Width In.	Mechanical Joint Dsg
14	FS 5800-FW14T FS 5800-FW14B
16	FS 5800-FW16T FS 5800-FW16B
18	FS 5800-FW18T FS 5800-FW18B

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- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. FW-D-3005**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 3A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Floor Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.
2. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***  
 See **Concrete Blocks (CAZT)** category in the Fire Resistance Directory for names of manufacturers.
3. **Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor and wall with min 3/16 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening, top or bottom. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	LFS 5800-FW14T LFS 5800-FW14B
16	LFS 5800-FW16T LFS 5800-FW16B
18	LFS 5800-FW18T LFS 5800-FW18B
20	LFS 5800-FW20T LFS 5800-FW20B

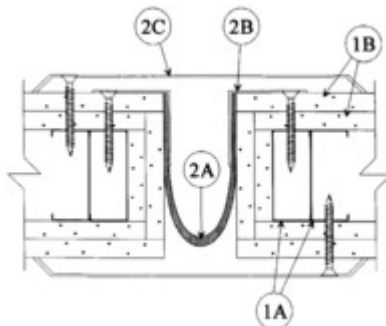
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- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates installed on top side of floor, continuous over full length of joint. Cover plate attached only to wall with min 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-0002**

**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 1 & 2 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression,  
 Extension Or Vertical Shear**

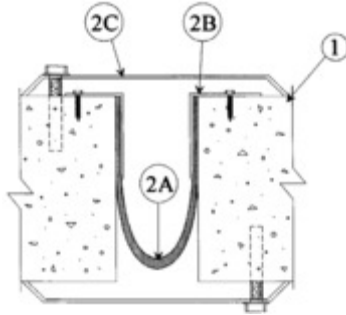


1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:
 

Nom Joint Width In.	Mechanical Joint Dsg
1	FS 5800-W1
2	FS 5800-W2
  - B. **Retaining Angles** — Min 2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint assembly with 2-1/2 in. leg of angle extending into joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center.
  - C. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-0003**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Width — 1 & 2 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression,  
 Extension Or Vertical Shear**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***  
See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	FS-5800-W1
2	FS-5800-W2

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- B. **Retaining Angles** — Min 2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint assembly with 2-1/2 in. leg of angle extending into joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

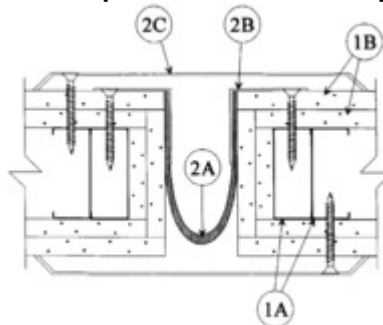
\*Bearing the UL Classification Mark

**System No. WW-D-0065**

**Assembly Ratings — 1 & 2 Hr (See Item 1)**

**Nominal Joint Widths — 1 & 2 In. (See Item 2A)**

**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each

side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**

2. **Joint System — Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

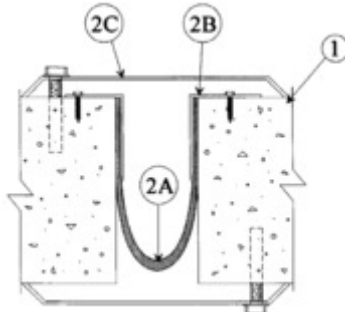
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	LFS 5800-W1
2	LFS 5800-W2

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- B. **Retaining Angles** — Min 2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint assembly with 2-1/2 in. leg of angle extending into joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center.
- C. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-0066  
 Assembly Rating — 2 Hr  
 Nominal Joint Width — 1 & 2 In. (See Item 2A)  
 Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.  
 See **Concrete Blocks (CAZT)** category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System — Max width of joint (at time of installation of joint system) is 1 or 2 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
1	LFS-5800-W1
2	LFS-5800-W2

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- B. **Retaining Angles** — Min 2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint assembly with 2-1/2 in. leg of angle extending into joint. Angles to extend entire

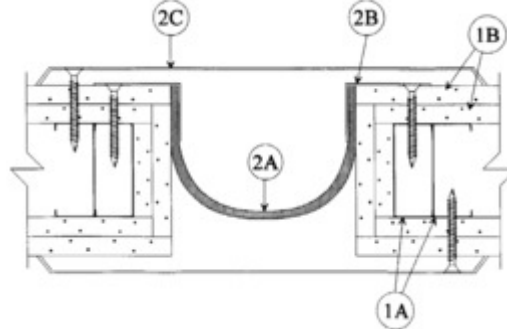


length of joint and are to be attached to wall assembly with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-1008**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
- B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**

2. **Joint System** — **Max width of joint (at time of installation of joint system) is 3, 4 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:

- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

Nom Joint Width In.	Mechanical Joint Dsg
3	FS 5800-W3
4	FS 5800-W4
5	FS 5800-W5
6	FS 5800-W6

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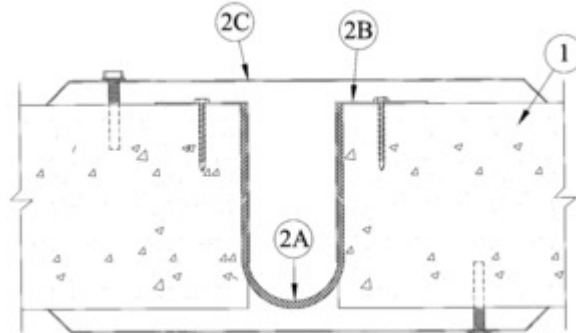
- B. **Retaining Angles** — Min 2-1/2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center.
- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-1009**

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**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 3, 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:

A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

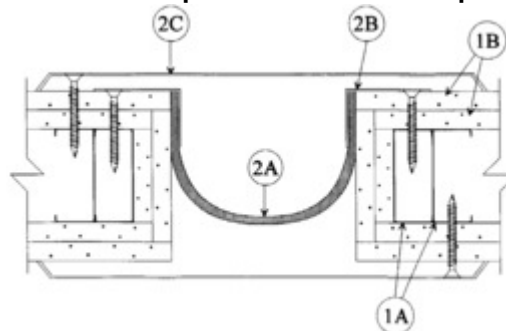
Nom Joint Width In.	Mechanical Joint Dsg
3	FS 5800-W3
4	FS 5800-W4
5	FS 5800-W5
6	FS 5800-W6

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- B. **Retaining Angles** — Min 2-1/2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

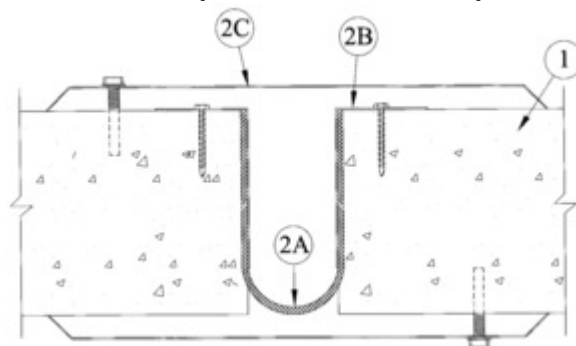
**System No. WW-D-1059**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression Extension**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
    - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
  2. **Joint System** — **Max width of joint (at time of installation of joint system) is 3, 4 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
    - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:
 

Nom Joint Width In.	Mechanical Joint Dsg
3	LFS 5800-W3
4	LFS 5800-W4
5	LFS 5800-W5
6	LFS 5800-W6
    - B. **Retaining Angles** — Min 2-1/2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center.
    - C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.
- \*Bearing the UL Classification Mark

**System No. WW-D-1060**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 3, 4, 5 & 6 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.  
 See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 3, 4, 5 or 6 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with metal flanges. Assembly to be installed on either side of wall in accordance with the installation

instructions provide with the product. The following assemblies are to be used with the different joint sizes:

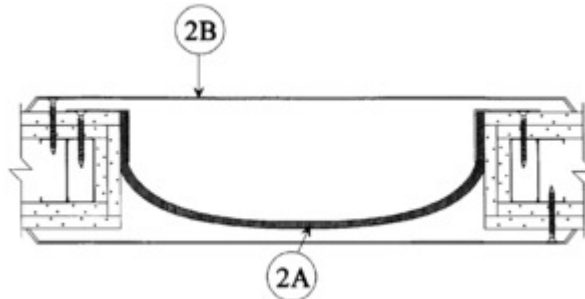
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
3	LFS 5800-W3
4	LFS 5800-W4
5	LFS 5800-W5
6	LFS 5800-W6

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- B. **Retaining Angles** — Min 2-1/2 by 2-1/2 in. 20 gauge (or heavier) galvanized steel angles installed over steel flanges of joint. Angles to extend entire length of joint and are to be attached to wall assembly with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.
- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-2001**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

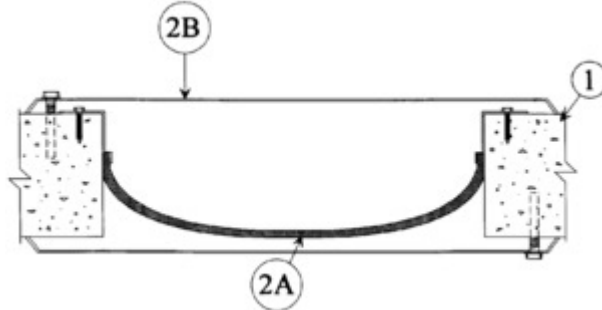
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	FS 5800-W8
10	FS 5800-W10
12	FS 5800-W12

**THERMAL STRUCTURES INC**

- C. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-2002**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

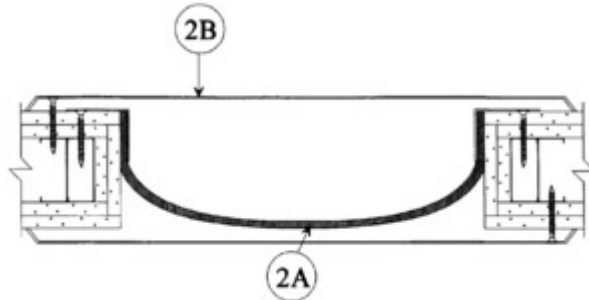
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	FS 5800-W8
10	FS 5800-W10
12	FS 5800-W12

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full length of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-2014**  
**Assembly Ratings — 1 & 2 Hr (See Item 1)**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

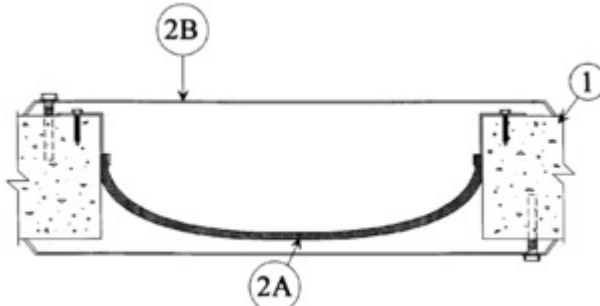
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
8	LFS 5800-W8
10	LFS 5800-W10
12	LFS 5800-W12

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-2015**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 8, 10, & 12 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.

- See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System — Max width of joint (at time of installation of joint system) is 8, 10 or 12 in. The joint system is designed to accommodate a max 50 percent compression, extension or vertical shear from its installed width.** The joint system consists of the following:
- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The following assemblies are to be used with the different joint sizes:

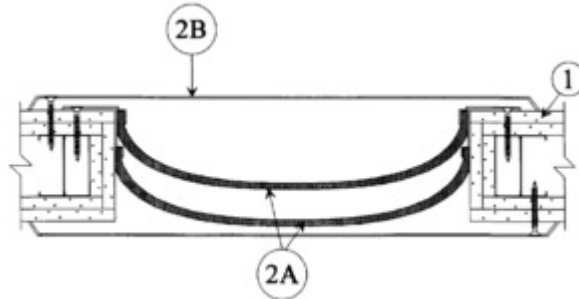
Nom Joint Width In.	Mechanical Joint Dsg
8	LFS 5800-W8
10	LFS 5800-W10
12	LFS 5800-W12

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full length of joint. Cover plates attached to wall on one side of Opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-3001**  
**Assembly Rating — 1 & 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
- B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
2. **Joint System — Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
- A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening. Assemblies with suffix B are installed within the opening first and assemblies with suffix T are installed within the opening over the B assembly. The following assemblies

are to be used with the different joint sizes:

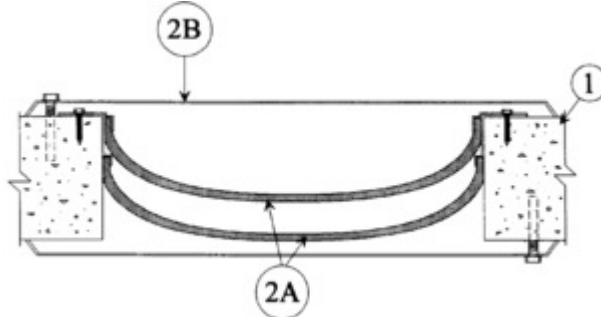
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	FS 5800-W14T FS 5800-W14B
16	FS 5800-W16T FS 5800-W16B
18	FS 5800-W18T FS 5800-W18B
20	FS 5800-W20T FS 5800-W20B

**THERMAL STRUCTURES INC**

B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-3002**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression, Extension Or Vertical Shear**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening. Assemblies with suffix B are installed within the opening first and assemblies with suffix T are installed within the opening over the B assembly. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	FS 5800-W14T FS 5800-W14B
16	FS 5800-W16T FS 5800-W16B



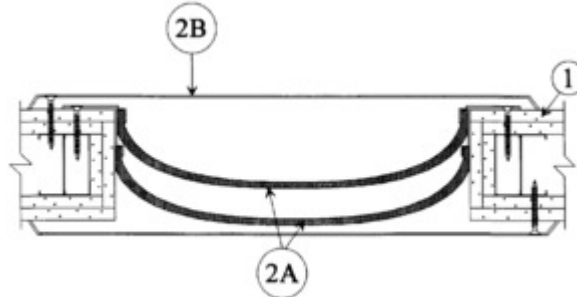
18	FS 5800-W18T
	FS 5800-W18B
20	FS 5800-W20T
	FS 5800-W20B

**THERMAL STRUCTURES INC**

B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-3013**  
**Assembly Rating — 1 & 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400-Series Wall or Partition Design 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. (or larger) lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Wallboard sheets to be installed to a min total thickness of 5/8 or 1-1/4 in. on each side of the wall for a 1 or 2 hr rated assemblies, respectively. Additional wallboard sheets installed to a min total thickness of 5/8 or 1-1/4 in. within the opening on each side of opening for a 1 or 2 hr rated assemblies, respectively. **The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.**
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to wall assembly with min 1-3/4 in. long drywall screws spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position within the opening. Assemblies with suffix B are installed within the opening first and assemblies with suffix T are installed within the opening over the B assembly. The following assemblies are to be used with the different joint sizes:

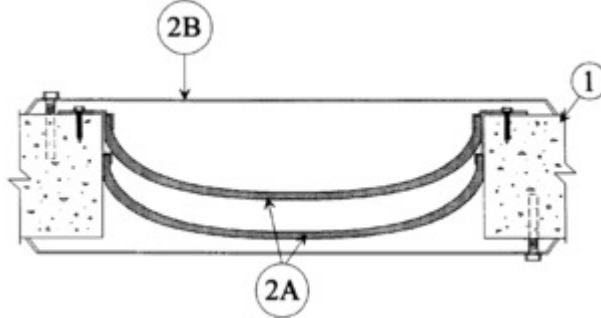
<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	LFS 5800-W14T
	LFS 5800-W14B
16	LFS 5800-W16T
	LFS 5800-W16B
18	LFS 5800-W18T
	LFS 5800-W18B

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min. 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 2-1/2 in. long drywall screws spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark

**System No. WW-D-3014**  
**Assembly Rating — 2 Hr**  
**Nominal Joint Widths — 14, 16, 18 & 20 In. (See Item 2A)**  
**Class II and III Movement Capabilities — 50% Compression or Extension**



1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***.  
 See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Joint System** — **Max width of joint (at time of installation of joint system) is 14, 16 or 18 in. The joint system is designed to accommodate a max 50 percent compression, extension or horizontal shear from its installed width.** The joint system consists of the following:
  - A. **Mechanical Joint Assembly** — Fire barrier material encased in corrugated metal and provided with integral galvanized steel angles. Angles are to be attached to floor with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center. Two separate fire barrier assemblies to be installed in floor in accordance with the installation instructions provide with the product. Assembly to be installed on either side of wall in accordance with the installation instructions provide with the product. The fire barrier assemblies' designations are provided with a T or a B to indicate the assemblies' intended position with in the opening. Assemblies with suffix B are installed within the opening first and assemblies with suffix T are installed within the opening over the B assembly. The following assemblies are to be used with the different joint sizes:

<b>Nom Joint Width In.</b>	<b>Mechanical Joint Dsg</b>
14	LFS 5800-W14T LFS 5800-W14B
16	LFS 5800-W16T LFS 5800-W16B
18	LFS 5800-W18T LFS 5800-W18B
20	LFS 5800-W20T LFS 5800-W20B

**THERMAL STRUCTURES INC**

- B. **Joint Cover** — Min 0.034 in. thick metallic cover plates secured to each side of wall, continuous over full height of joint. Cover plates attached to wall on one side of opening only with min 1/4 in. diam by 1-1/2 in. long masonry anchors spaced a max of 18 in. on center.

\*Bearing the UL Classification Mark