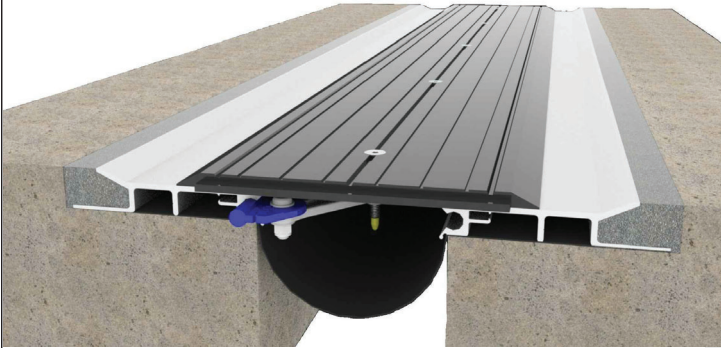




BUILDING TRUST

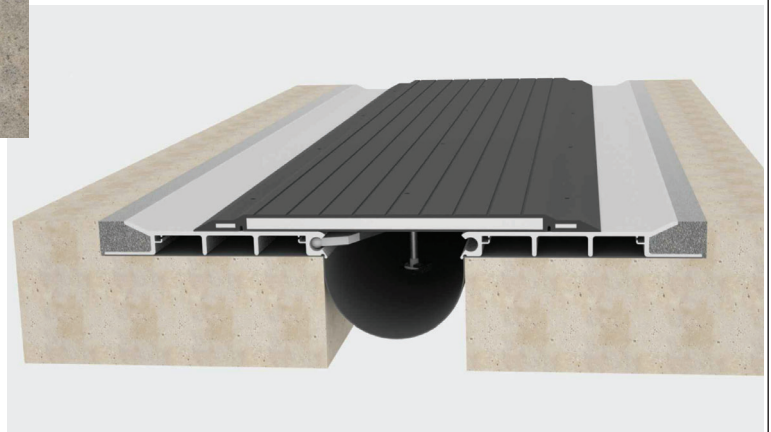


Installation Procedure



Wabo®SeismicSafetyFlex
Model "SSF-200/400"

Pages 2-11



Wabo®SeismicSafetyFlex
Model(s) "SSF-600 - SSF-2400"

Pages 12-22

The following installation procedure is very important and must be fully understood prior to beginning any work. To ensure proper installation and performance of the expansion joint system the following actions must be completed by the installing contractor. **Failure to do so will affect product warranty.**

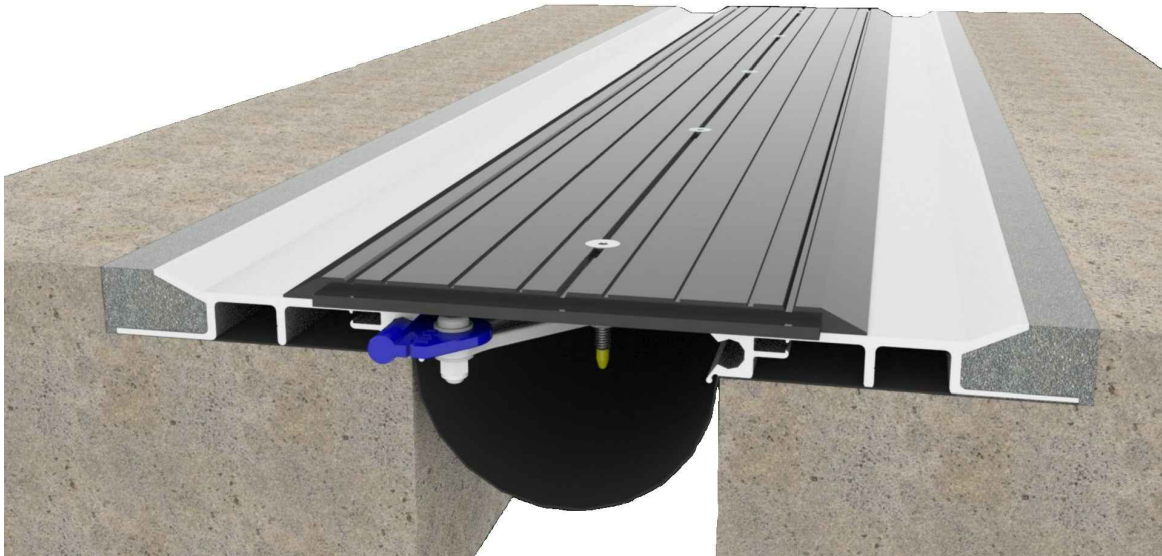
- 1) Carefully read and understand installation procedure. Contact Emseal's Technical Service Department at (508) 836-0280 for product assistance.
- 2) Inspect all shipments and materials for missing or damaged components and hardware. Contact Customer Service at (508) 836-0280 with Emseal's order number and invoice for prompt assistance.
- 3) Inspect substrate or adjacent construction for acceptance before beginning work. Report unacceptable construction to the project manager for scheduled repair work.
- 4) Review Emseal shop drawings for project specific detailed information if Engineering services were purchased at time of order.



BUILDING TRUST



Installation Procedure



Wabo®SeismicSafetyFlex Model "SSF-200/400" Horizontal Expansion Control Systems

The following installation procedure is very important and must be fully understood prior to beginning any work. To ensure proper installation and performance of the expansion joint system the following actions must be completed by the installing contractor. **Failure to do so will affect product warranty.**

- 1) Carefully read and understand installation procedure. Contact Emseal's Technical Service Department at (508) 836-0280 for product assistance.
- 2) Inspect all shipments and materials for missing or damaged components and hardware. Contact Customer Service at (508) 836-0280 with Emseal's order number and invoice for prompt assistance.
- 3) Inspect substrate or adjacent construction for acceptance before beginning work. Report unacceptable construction to the project manager for scheduled repair work.
- 4) Review Emseal shop drawings for project specific detailed information if Engineering services were purchased at time of order.

Standard components



Bullet Bolt 3/8-16
- shipped loose -
(P/N 5442)

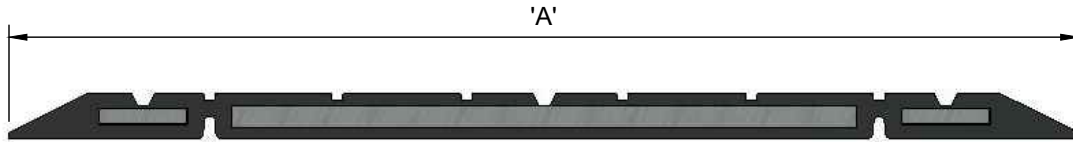


Alignment Pin
- shipped loose -
(P/N 15775)



3/8" x 3" Lg Hilti Kwik Bolt
- shipped loose -
(P/N 6591)

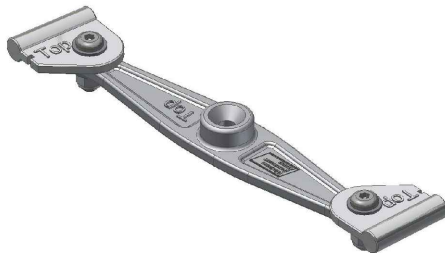
Components shown below vary in size depending
on the model shown



Wabo®SafetyFlex Coverplate

- refer to chart for size and P/N -

Model #	Black P/N	Gray P/N	"A" dim.
SSF-200/400	19960	19961	12"



Seismic Self-Centering Bar

- refer to chart for size and P/N -

Model #	P/N	System Width
SSF-200/400	15888	11.5"



SSF-200/400 Base Member
(P/N 15844)

OPTIONAL



Screw, 1/4 x 1" Lg FPTN
- SSF-1000/1200 -
P/N 5634



Stop Bar (4" x 3/4" x 3/8")
P/N 5937



Color Matched End Caps
Optional

- refer to chart for size and P/N -

Model #	Black P/N	Gray P/N
SSF-200/400	19962	19963



Moisture Barrier

- refer to chart for size and P/N -

Model #	P/N
SSF-200/400	3166

Optional components



WaboCrete® Parking Series Elastomeric Concrete
with **Wabocrete II Part B Black:**
Part A (P/N: 14380H), Part B (black) (P/N: 14381G),
Part C (P/N: 33138)



NEW Sikadur 229 66lb Bag (30.0 KG)
(P/N: 33137) for broadcasting onto WaboCrete®
Parking Series Elastomeric Concrete exposed surface.



Wabo® Crete Parking Series Elastomeric Concrete
Non-Flow Additive
(for sloped, crowned or ramped surfaces) P/n #14389
Add maximum of one (1) bag to one (1) unit of
Elastomeric Concrete

Health & Safety

During the installation of any product, appropriate personal protective items should be worn at all times, including but not limited to the following:

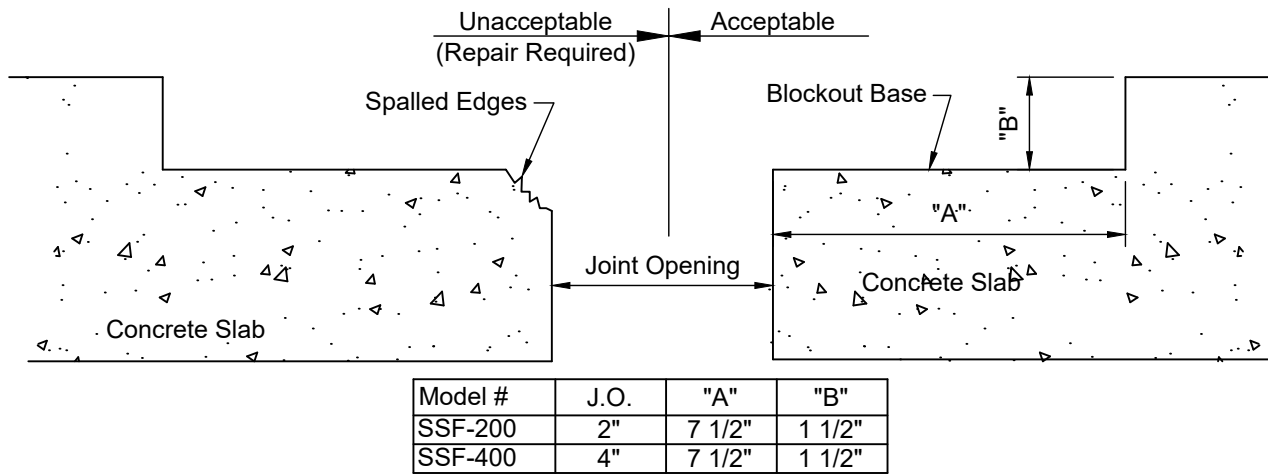


Local rules and regulations regarding safe work environments and health should be followed.

Pre-Installation Notes

Concrete substrate must be clean (free of dirt, dust, coatings, rust, grease, oil and other contaminants), sound and durable. New concrete must be fully cured (min. 14 days) and all laitance removed. Mask joint edges with duct tape and roofing paper to ensure a clean final appearance. Clean blockout with dry compressed air.

Installation Procedure

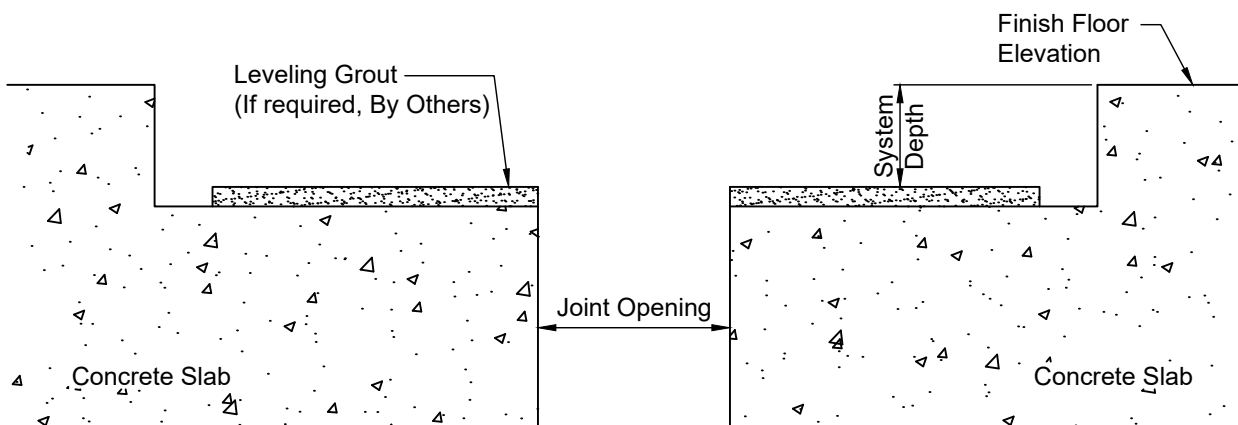


1

Prepare concrete block out for installation of Wabo® SeismicSafetyFlex Expansion Control System.

Deficiencies in block out base and spalled edges must be corrected prior to beginning work.

Note: Utilizing concrete repair material, repair corner of concrete slab following manufacturers written instructions.

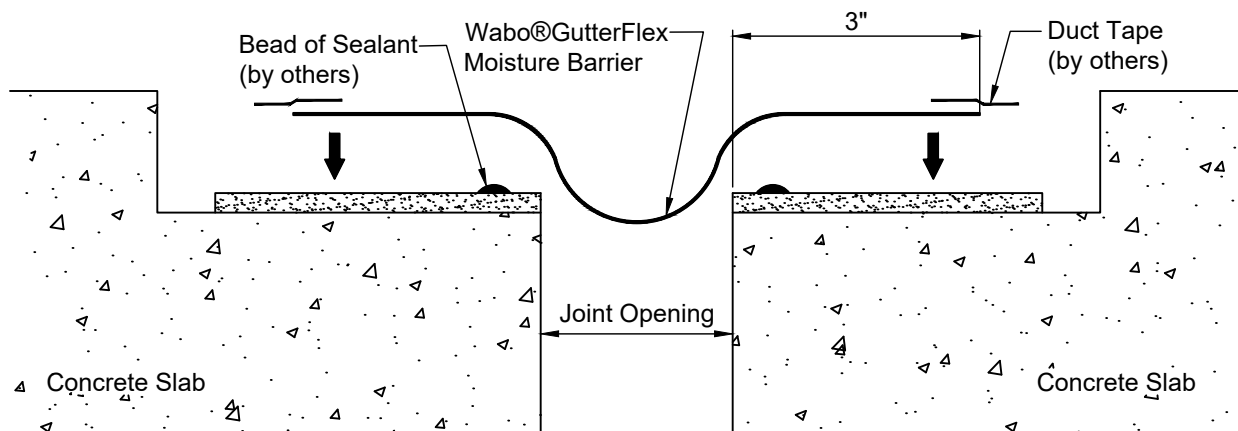


Prepare concrete blockout for installation of expansion joint. Variations in block out dimensions must be corrected prior to beginning work.

2

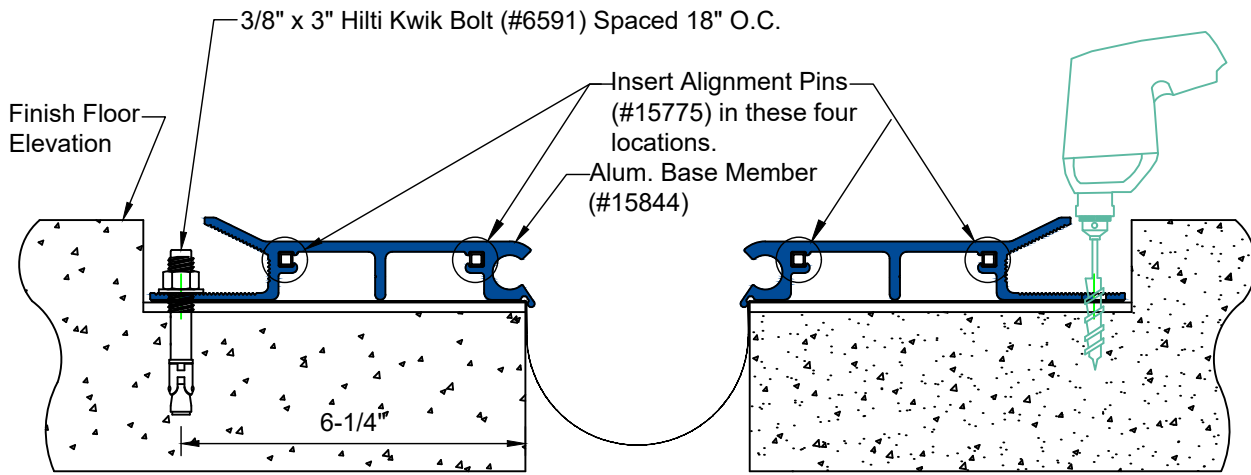
Note:

Leveling grout usually not required if blockout was formed true and level to satisfy expansion joint system depth.



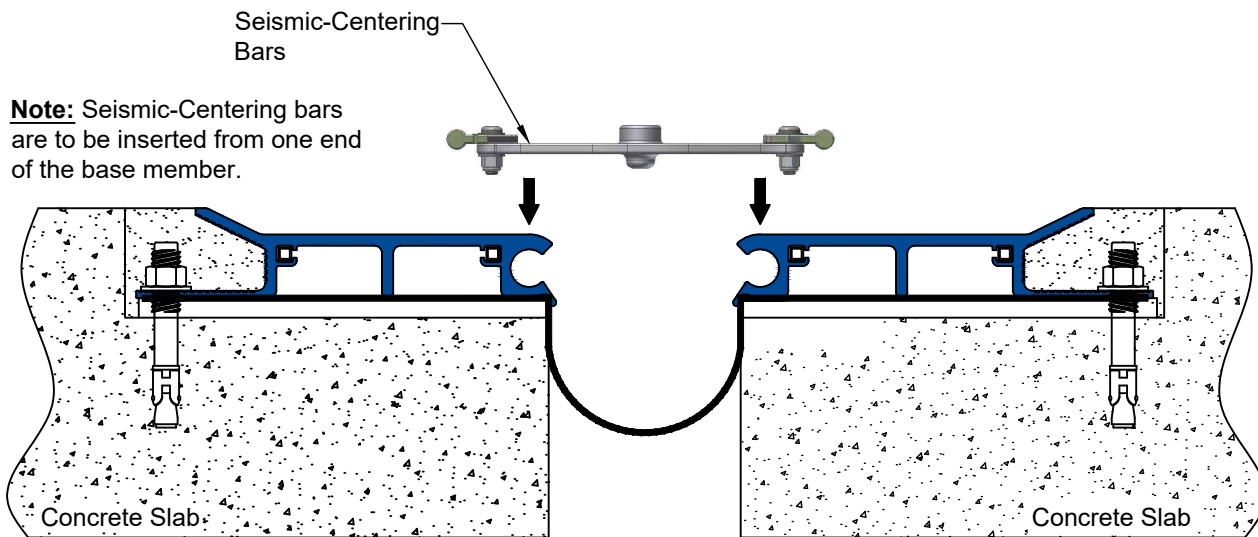
3

Before installation of Wabo® GutterFlex, Contractor shall apply a bed of sealant to the blockout to ensure that there will be a water tight connection between the blockout and Wabo® GutterFlex assembly. Lay Wabo® GutterFlex moisture barrier into opening and hold it in place using Duct Tape (by others) per the drawing above. *Note: moisture barrier should pitch from one end to the other to drain properly. See Wabo® GutterFlex Installation Manual for further instructions.*



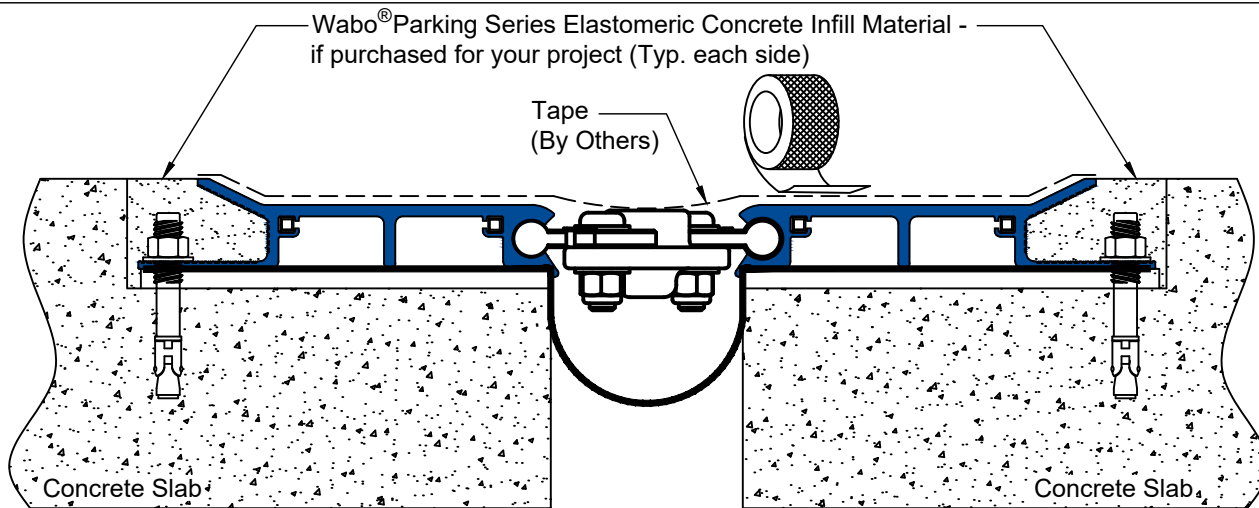
4A

SSF-200/400 Place and adjust aluminum base member (#15844) into blockouts. Mark anchor locations and follow Hilti recommendations for proper anchor installation. Prior to anchoring base members into place, apply a continuous bead of sealant (by others) onto blockout and at butt ends of aluminum base members. Place and anchor base member. *Remember to install Alignment Pins (#15775) at each butted intersection.*



5 As work progresses with placement of base members, install Seismic-centering bars by sliding the sphered ends of the bars into and through the circular cavity of the base members. Set four (4) per SafetyFlex coverplate. Ensure that the "TOP" indicator is facing up and that bars are in same orientation. Additionally "notches" should face out (away from center of bar) for proper installation... as shown below.

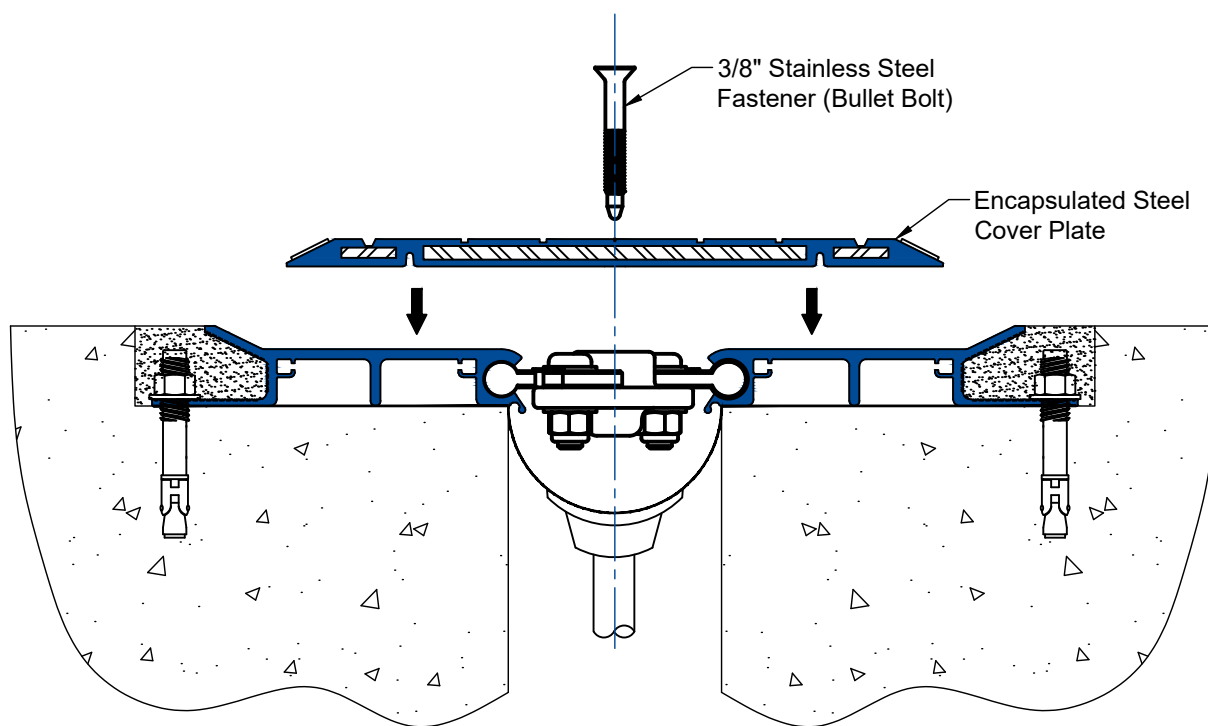




6

Tape and protect exposed metal surfaces during placement of filler material. Fill blockout with Wabo® Crete Parking Series or equivalent for infill material.

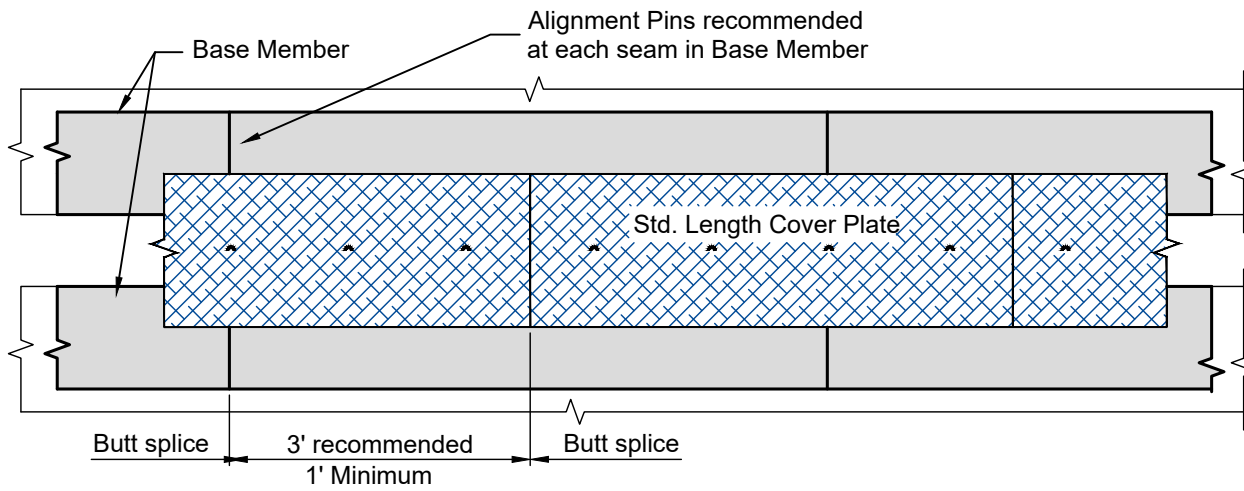
Wabo® Crete Parking Series Elastomeric Concrete (*if purchased for your project*): **DO NOT** mix partial units of Wabo® Crete Parking Series Elastomeric Concrete. Thoroughly stir Part B, scraping the can before pouring entire contents of Part B in a clean five (5) gallon plastic bucket. Add Part A and mix both components with a 3/4" Low RPM drill equipped with a large grout paddle for 30 seconds and until well blended. Add aggregate component to the liquid material and mix until all aggregate is coated (approx. 1-1/2 minutes) Pour Wabo® Crete Parking Series Elastomeric Concrete mix flush to the top of the aluminum extrusion and adjacent surface. The material will flow and self-level. Lightly trowel surface to a smooth surface. If desired, solvent (i.e. Xylene, Toluene) can be used while troweling and for cleanup of tools. After 2-3 minutes, broadcast Masterseal 940 Aggregate to refusal (medium grit). This enhances Wabo® Crete Parking Series aesthetic, UV Stability and skid-resistance. Remove tape from top of system and substrate immediately after installation of Wabo® Crete Parking Series Elastomeric Concrete is completed.



NOTE: Read entire Step #7 (below) before proceeding.

7

1. Center holes in SafetyFlex Plate should be drilled out for a 3/8" clearance hole, then align hole in SafetyFlex Coverplate with the Self-Centering Bar Grommet hole.
2. Insert 3/8" "Bullet Bolt" into hole manually by hand through Coverplate and into Self-Centering Bar. Once thread starts, continue using large philips screw driver, then finish using Drill to gently 'drive home' screw. A setting of 12 on the drill should suffice. Do not overtighten.
3. Do one Coverplate (with four self-centering bar assemblies) system at a time.



Plan of Staggered Joints.

7A

Center encapsulated Cover plates over opening, aligning the holes for the self-centering bars over the previously installed bars. Maintain butt splice spacing as shown.

Stop Bar Installation *Optional*

7B

Once all the SafetyFlex Coverplates have been installed and placed tightly together, the Stop Bars can be used at each end to hold the Coverplates tightly together (Optional). See Appendix 'A' for proper installation detail.

Recommended Equipment for Wabo® Crete Mixing

- Abrasive blasting Equipment
- 3/4" Heavy Duty Drill (1 hsp - Low RPM)
- 3/8" Hand Drill
- (2) Jiffy mixing paddles
- (1) Large Paddle (4" to 6")
- (1) Small Paddle (2")
- (1) Roll of 15lb Roofing Paper
- (2) Clean 5 gallon plastic buckets
- (4) Clean 1 gallon plastic buckets (For bonding agent)
- (8) 2" disposable paint brushes (For Bonding agent)
- Rubber gloves
- (8) 2" Margin trowels
- Misc. hand tools and extension cords

Yield Calculations for Wabo® Crete Parking Series:

- One unit of Wabo® Crete Parking Series Elastomeric Concrete will yield .60 cu. ft.
- One unit of Wabo® Crete Parking Series = One US half gallon Part A, One gallon Part B, and one 60 lb Container of aggregate. the formula for calculating volume is: (length in feet x width in inches x depth in inches) / 86.4 = Number of units of Wabo® Crete Parking Series needed to complete the job.

Example

Based on a blockout size 3 1/2" wide x 3/4" deep x 30' long:

The calculation would be: (.0304 x 30)= .91 units. This calculation is for only **ONE** side of the blockout.

Curing of Wabo® Crete Parking Series Elastomeric Concrete:

Wabo® Crete Parking Series Elastomeric Concrete is an ambient cure material. Cure times are therefore, temperature dependant. Suggested cure times are listed below:

- | | | |
|-------------------|----------------------|--------------------|
| Cure Time: | 21° - 32°C(70°-90°F) | - 1 to 1 1/2 Hours |
| (Open to Traffic) | 10° - 21°C(50°-70°F) | - 1 1/2 to 2 Hours |
| | 4° - 10°C(40°-50°F) | - 2 to 3 Hours |

Sloped Conditions:

1. Premix Part B for 20 seconds (Scraping sides and bottom of can)
2. Pour Part B into clean empty 5 gallon bucket
3. Pour into Part A
4. Add Non-Flow additive, blend for 30 seconds
5. Add Part C and mix for 1.5 minutes
6. Pour into blockout and work Wabo® Crete Parking Series with trowel into sloped condition until it sets up and stays in sloped position.

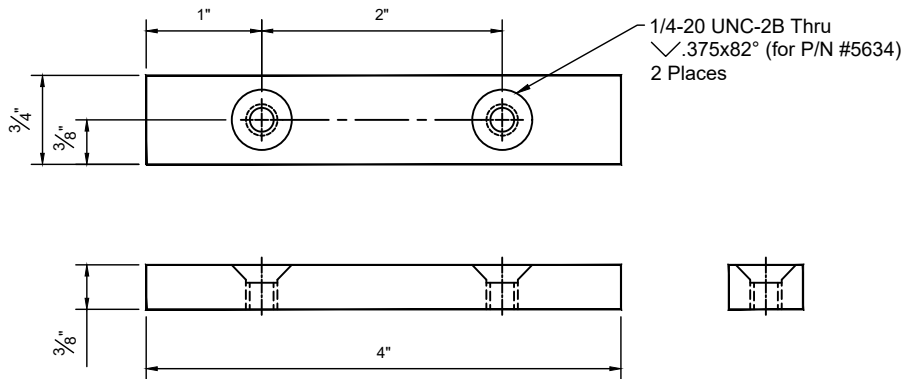
Notes:

All blockout width shall be 2x greater than the depth.

All yields are approximate and do not include allowance for uneven blockouts, waste etc..

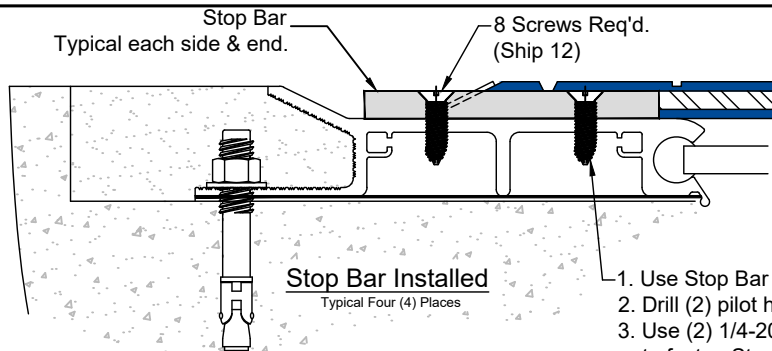
APPENDIX 'A'

See drawing below for proper installation of the Stop Bars

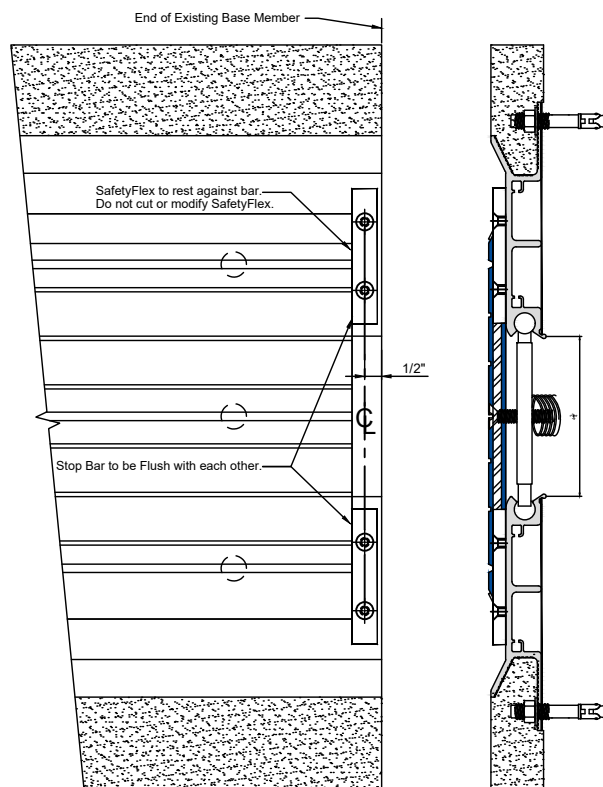


Stop Bar

(WBA #5937) - 4 Req'd



1. Use Stop Bar to locate holes.
2. Drill (2) pilot holes in Base Member @ each location.
3. Use (2) 1/4-20 Flat Head SS Self-Tapping Screws to fasten Stop Bar.



Partial Plan View



BUILDING TRUST



Installation Procedure



Wabo®SeismicSafetyFlex Model(s) "SSF-600 - SSF-2400" Horizontal Expansion Control Systems

The following installation procedure is very important and must be fully understood prior to beginning any work. To ensure proper installation and performance of the expansion joint system the following actions must be completed by the installing contractor. **Failure to do so will affect product warranty.**

- 1) Carefully read and understand installation procedure. Contact Emseal's Technical Service Department at (508) 836-0280 for product assistance.
- 2) Inspect all shipments and materials for missing or damaged components and hardware. Contact Customer Service at (508) 836-0280 with Emseal's order number and invoice for prompt assistance.
- 3) Inspect substrate or adjacent construction for acceptance before beginning work. Report unacceptable construction to the project manager for scheduled repair work.
- 4) Review Emseal shop drawings for project specific detailed information if Engineering services were purchased at time of order.

Standard components



3/8" x 4" Lg Philips Head Screw
- included with Self Centering Bar -
(P/N 5836)



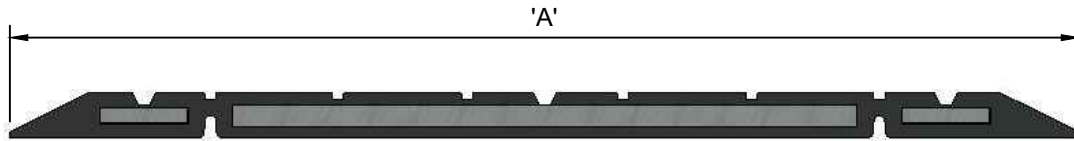
Alignment Pin
- SSF-200 thru 800 -
(P/N 15775)



3/8" x 3" Lg Hilti Kwik Bolt
- shipped loose -
(P/N 6591)

3/8" x 3" Lg Hilti Kwik
HUS Bolt
- shipped loose -
(P/N 6605)

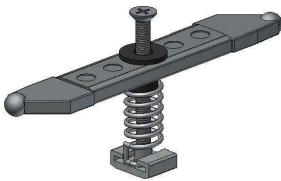
Components shown below vary in size depending
on the model shown



Wabo@SafetyFlex Coverplate

- refer to chart for size and P/N -

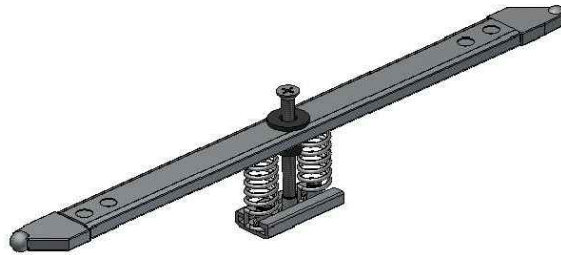
Model #	Black P/N	Gray P/N	"A" dim.
SSF-600/800	19980	19981	17 1/2"
SSF-1000-1200	19970	19971	23 1/2"
SSF-1800/2000	19990	19991	29 3/4"
SSF-2200-2400	19940	19941	36 3/4"



Seismic Self-Centering Bar

- refer to chart for size and P/N -

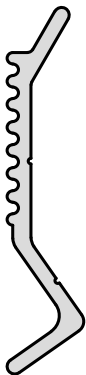
Model #	P/N	System Width
SSF-600/800	15682	15"



Seismic Self-Centering Bar

- refer to chart for size and P/N -

Model #	P/N	System Width
SSF-1000-1200	15684	21"
SSF-1800-2000	15688	28"
SSF-2200-2400	15689	30"



Gutter Retainer

- SSF-1800/2000 & SSF-2200/2400 Only -
(P/N 3091)

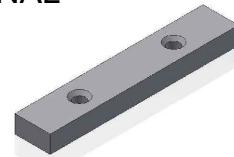


Ø1/4 x 2-1/4" Lg SS Tapcon
- SSF-1800/2000 & SSF-2200/2400 Only -
(P/N 6542)

OPTIONAL



Screw, 1/4 x 1" Lg
FPTN
(P/N 5634)

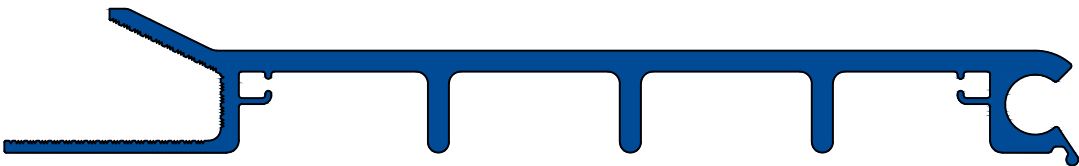


Stop Bar (4" x 3/4" x 3/8")
- Optional -
(P/N 5937)

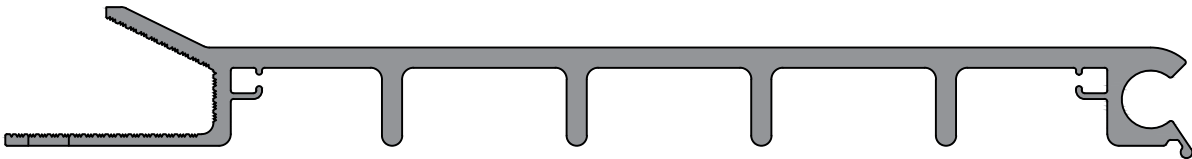
Components shown below vary in size depending on the model shown



SSSF-600/800 Base Member
(P/N 15845)



SSSF-1000/1200 Base Member
(P/N 15690)



SSSF-1800/2000 Base Member
SSSF-2200/2400 Base Member
(P/N 15685)



Color Matched End Caps
Optional

- refer to chart for size and P/N -

Model #	Black P/N	Gray P/N
SSSF-600/800	19982	19983
SSSF-1000-1200	19972	19973
SSSF-1800-2000	19992	19993
SSSF-2200-2400	19942	19943



Moisture Barrier

- refer to chart for size and P/N -

Model #	P/N
SSSF-600/800	3170
SSSF-1000-1200	3170
SSSF-1800/2000	3168
SSSF-2200-2400	3168

Optional components



WaboCrete® Parking Series Elastomeric Concrete
with **Wabocrete II Part B Black:**
Part A (P/N: 14380H), Part B (black) (P/N: 14381G),
Part C (P/N: 33138)



NEW Sikadur 229 66lb Bag (30.0 KG)
(P/N: 33137) for broadcasting onto WaboCrete®
Parking Series Elastomeric Concrete exposed surface.



Wabo® Crete Parking Series Elastomeric Concrete
Non-Flow Additive
(for sloped, crowned or ramped surfaces) P/n #14389
Add maximum of one (1) bag to one (1) unit of
Elastomeric Concrete

Health & Safety

During the installation of any product, appropriate personal protective items should be worn at all times, including but not limited to the following:

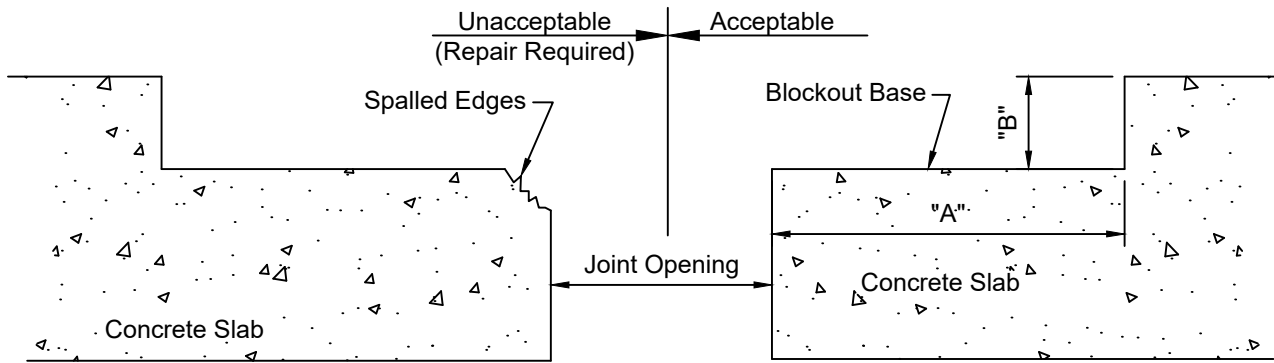


Local rules and regulations regarding safe work environments and health should be followed.

Pre-Installation Notes

Concrete substrate must be clean (free of dirt, dust, coatings, rust, grease, oil and other contaminants), sound and durable. New concrete must be fully cured (min. 14 days) and all laitance removed. Mask joint edges with duct tape and roofing paper to ensure a clean final appearance. Clean blockout with dry compressed air.

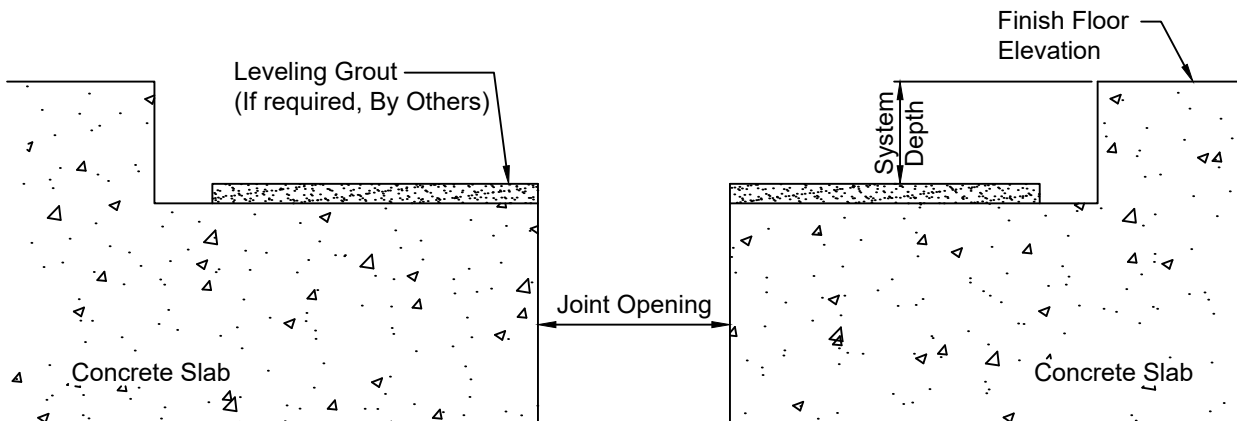
Installation Procedure



Model #	J.O.	"A"	"B"	Model #	J.O.	"A"	"B"
SSF-600	6"	10 1/2"	1 1/2"	SSF-1800	18"	13 1/2"	1 1/2"
SSF-800	8"	10 1/2"	1 1/2"	SSF-2000	20"	13 1/2"	1 1/2"
SSF-1000	10"	11 3/4"	1 1/2"	SSF-2200	22"	13 1/2"	1 1/2"
SSF-1200	12"	11 3/4"	1 1/2"	SSF-2400	24"	13 1/2"	1 1/2"

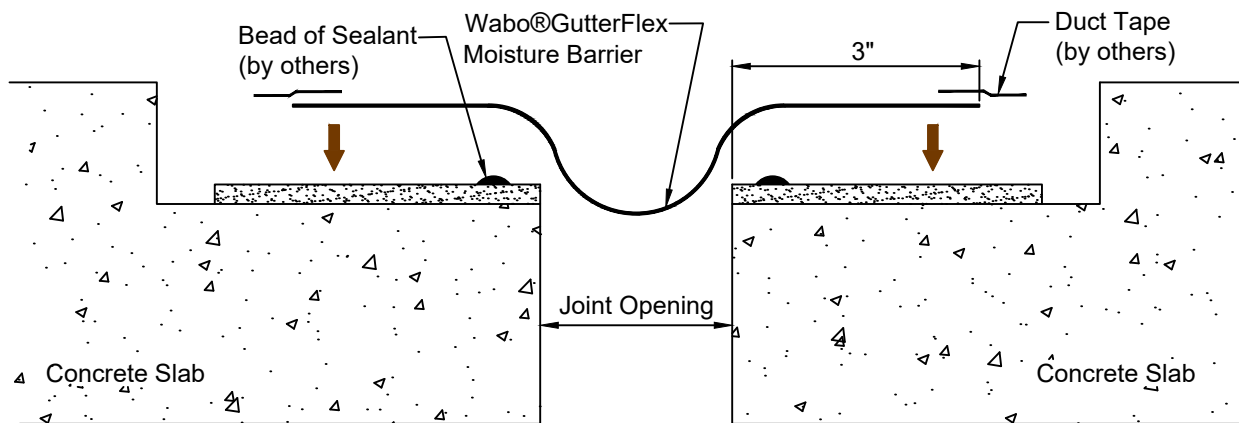
1

Prepare concrete block out for installation of Wabo®SeismicSafetyFlex Expansion Control System. *Deficiencies in block out base and spalled edges must be corrected prior to beginning work.*
Note: Utilizing concrete repair material, repair corner of concrete slab following manufacturers written instructions.



2

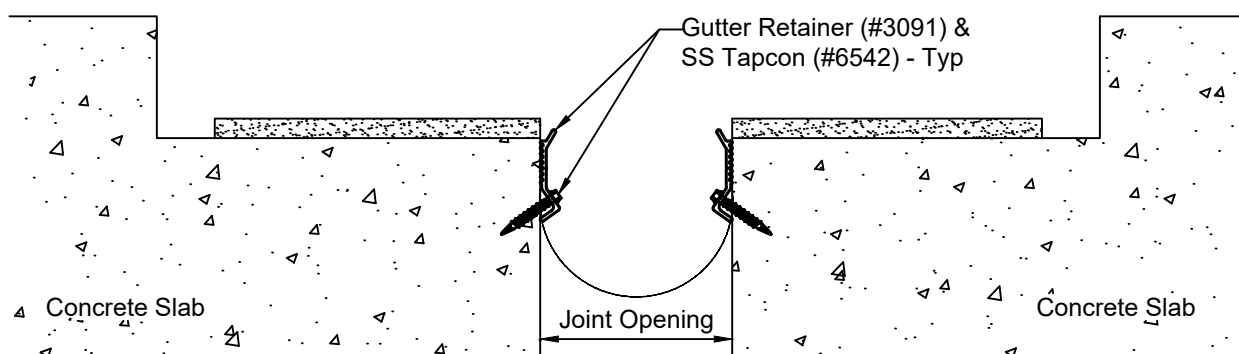
Prepare concrete blockout for installation of expansion joint. Variations in block out dimensions must be corrected prior to beginning work.
Note: *Leveling grout usually not required if blockout was formed true and level to satisfy expansion joint system depth.*



SSF-600/800 & SSF-1000/1200 ONLY

3A

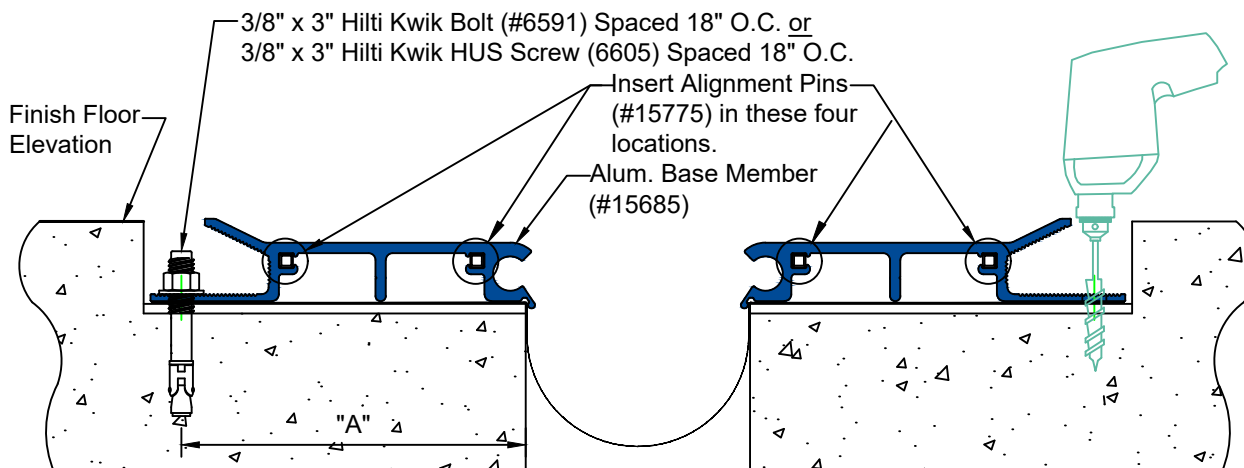
Before installation of Wabo®GutterFlex, Contractor shall apply a bed of sealant to the blockout to ensure that there will be a water tight connection between the blockout and Wabo®GutterFlex assembly. Lay Wabo®GutterFlex moisture barrier into opening and hold it in place using Duct Tape (by others) per the drawing above. *Note: moisture barrier should pitch from one end to the other to drain properly. See Wabo®GutterFlex Installation Manual for further instructions.*



SSF-1800/2000 & SSF-2200/2400 ONLY

3B

Before installation of Wabo®GutterFlex, Contractor shall apply a bed of sealant to the blockout to ensure that there will be a water tight connection between the blockout and Wabo®GutterFlex assembly. Mount Wabo®GutterFlex moisture barrier into opening using Gutter Retainer (#3091) & Tapcon (#6542) per the drawing above. *Note: moisture barrier should pitch from one end to the other to drain properly. See Wabo®GutterFlex Installation Manual for further instructions.*

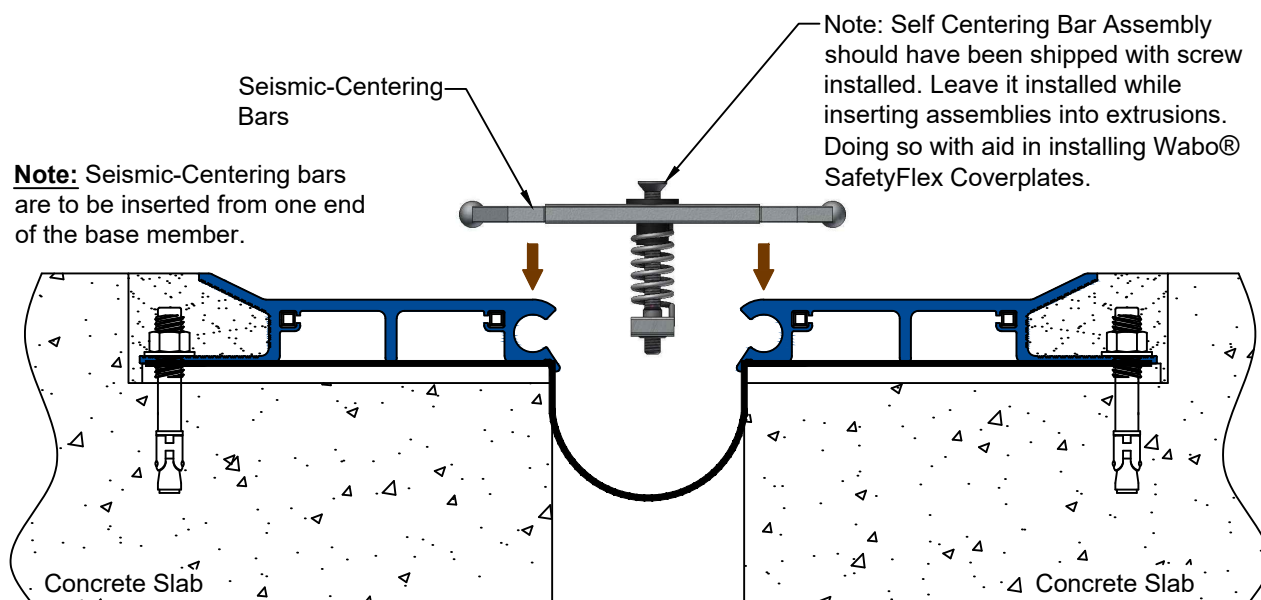


Model #	"A"	Model #	"A"
SSF-600/800	9 1/8"	SSF-1800/2000	12"
SSF-1000/1200	10-1/2"	SSF-2200/2400	12"

4A

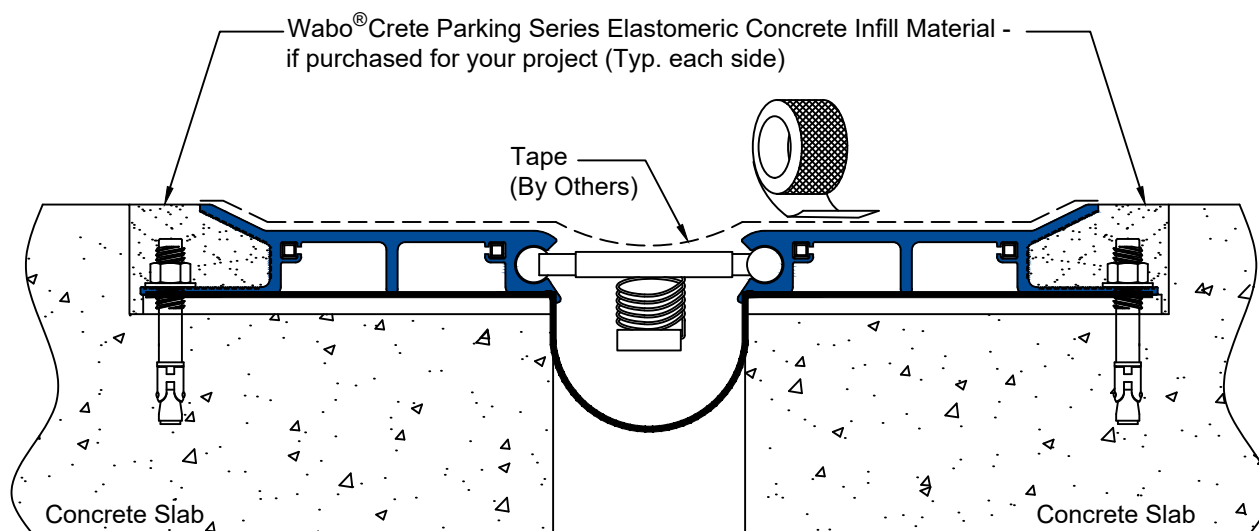
SSF-600/800, SSF-1000/1200, SSF-1800/2000 & SSF-2200/2400

Place and adjust aluminum base members (#15685) into blockouts. Mark anchor locations and follow Hilti recommendations for proper anchor installation. Prior to anchoring base members into place, apply a continuous bead of sealant (by others) onto blockout and at butt ends of aluminum base members. Place and anchor base member. *Remember to install Alignment Pins (#15775) at each butted intersection.*



5

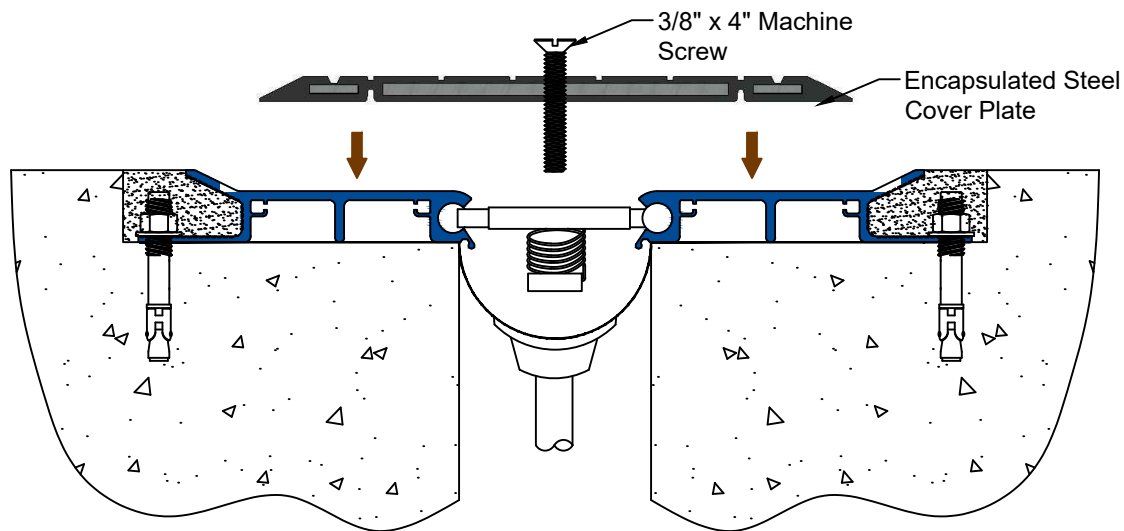
As work progresses with placement of base members, install Seismic-centering bars by sliding the sphered ends of the bars into and through the circular cavity of the base members. Set at an approximate spacing of 18" O.C. Ensure that the "TOP" indicator is facing up and that bars are in same orientation.



6

Tape and protect exposed metal surfaces during placement of filler material. Fill blockout with Wabo®Crete Parking Series or equivalent for infill material.

Wabo®Crete Parking Series Elastomeric Concrete (if purchased for your project): **DO NOT** mix partial units of Wabo®Crete Parking Series Elastomeric Concrete. Thoroughly stir Part B, scraping the can before pouring entire contents of Part B in a clean five (5) gallon plastic bucket. Add Part A and mix both components with a 3/4" Low RPM drill equipped with a large grout paddle for 30 seconds and until well blended. Add aggregate component to the liquid material and mix until all aggregate is coated (approx. 1-1/2 minutes) Pour Wabo®Crete Parking Series Elastomeric Concrete mix flush to the top of the aluminum extrusion and adjacent surface. The material will flow and self-level. Lightly trowel surface to a smooth surface. If desired, solvent (i.e. Xylene, Toluene) can be used while troweling and for cleanup of tools. After 2-3 minutes, broadcast Masterseal 940 Aggregate to refusal (medium grit). This enhances Wabo®Crete Parking Series aesthetic, UV Stability and skid-resistance. Remove tape from top of system and substrate immediately after installation of Wabo®Crete Parking Series Elastomeric Concrete is completed.

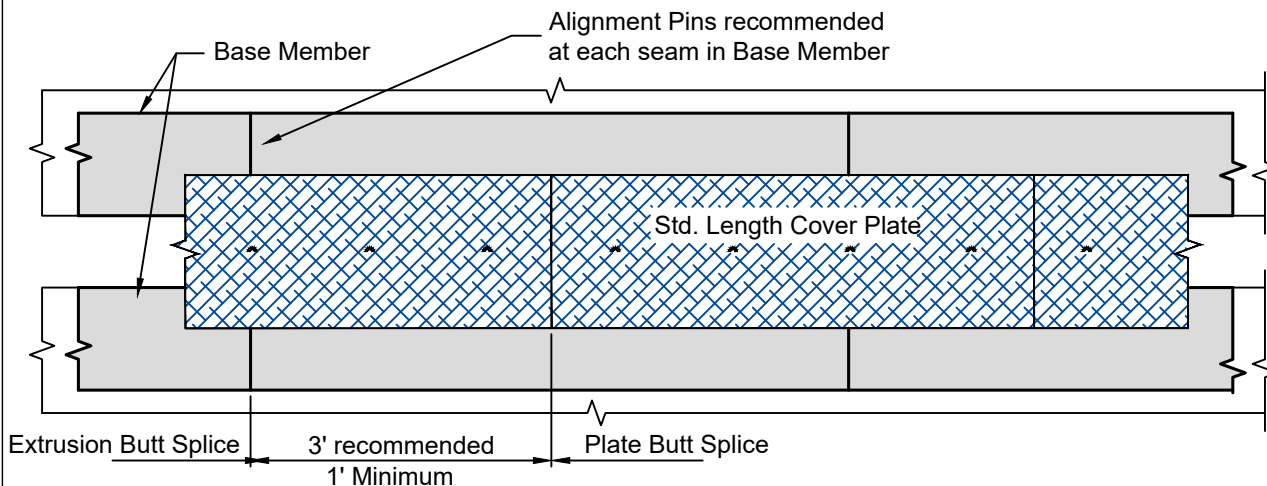


NOTE: Read entire Step #7 (below) before proceeding.

7

1. Prior to assembling the SafetyFlex plates, gently remove the 4" screws from the Self-Centering Bar Assemblies and keep; they will be reused.
2. Center holes in SafetyFlex Plate should be drilled out for a 3/8" clearance hole, then align hole in SafetyFlex Cover plate with the Self-Centering Bar Grommet hole.
3. Insert 3/8" x 4" lg screw into hole manually by hand through Coverplate and into Self-Centering Bar. Once thread starts, continue using large philips screw driver, then finish using Drill to gently 'drive home' screw. A setting of 12 on the drill should suffice. Do not overtighten.
4. Do one coverplate (with self-centering bar assembly) system at a time.

Note: To assure that threads do not loosen, apply Loctite Thread adhesive (By Others) to threads of the 3/8" Dia Screw before securing cover plate to seismic-centering bars.



Plan of Staggered Joints.

7A

Center encapsulated Cover plates over opening, aligning the holes for the self-centering bars over the previously installed bars. Maintain butt splice spacing as shown.

Stop Bar Installation *Optional*

7B

Once all the SafetyFlex Coverplates have been installed and placed tightly together, the Stop Bars can be used at each end to hold the Coverplates tightly together (Optional). See Appendix 'A' for proper installation detail.

Recommended Equipment for Wabo®Crete Mixing

- Abrasive blasting Equipment
- 3/4" Heavy Duty Drill (1 hsp - Low RPM)
- 3/8" Hand Drill
- (2) Jiffy mixing paddles
- (1) Large Paddle (4" to 6")
- (1) Small Paddle (2")
- (1) Roll of 15lb Roofing Paper
- (2) Clean 5 gallon plastic buckets
- (4) Clean 1 gallon plastic buckets (For bonding agent)
- (8) 2" disposable paint brushes (For Bonding agent)
- Rubber gloves
- (8) 2" Margin trowels
- Misc. hand tools and extension cords

Yield Calculations for Wabo®Crete Parking Series Elastomeric Concrete:

- One unit of Wabo®Crete Parking Series Elastomeric Concrete will yield .60 cu. ft.
- One unit of Wabo®Crete Parking Series Elastomeric Concrete = One US half gallon Part A, One gallon Part B, and one 60 lb Container of aggregate. the formula for calculating volume is: (length in feet x width in inches x depth in inches) / 86.4 = Number of units of Wabo®Crete Parking Series needed to complete the job.

Example

Based on a blockout size 3 1/2" wide x 3/4" deep x 30' long:

The calculation would be: (.0304 x 30)= .91 units. This calculation is for only **ONE** side of the blockout.

Curing of Wabo®Crete Parking Series:

Wabo®Crete Parking Series is an ambient cure material. Cure times are therefore, temperature dependant.

Suggested cure times are listed below:

- | | | |
|-------------------|----------------------|--------------------|
| Cure Time: | 21° - 32°C(70°-90°F) | - 1 to 1 1/2 Hours |
| (Open to Traffic) | 10° - 21°C(50°-70°F) | - 1 1/2 to 2 Hours |
| | 4° - 10°C(40°-50°F) | - 2 to 3 Hours |

Sloped Conditions:

1. Premix Part B for 20 seconds (Scraping sides and bottom of can)
2. Pour Part B into clean empty 5 gallon bucket
3. Pour into Part A
4. Add Non-Flow additive, blend for 30 seconds
5. Add Part C and mix for 1.5 minutes
6. Pour into blockout and work Wabo®Crete with trowel into sloped condition until it sets up and stays in sloped position.

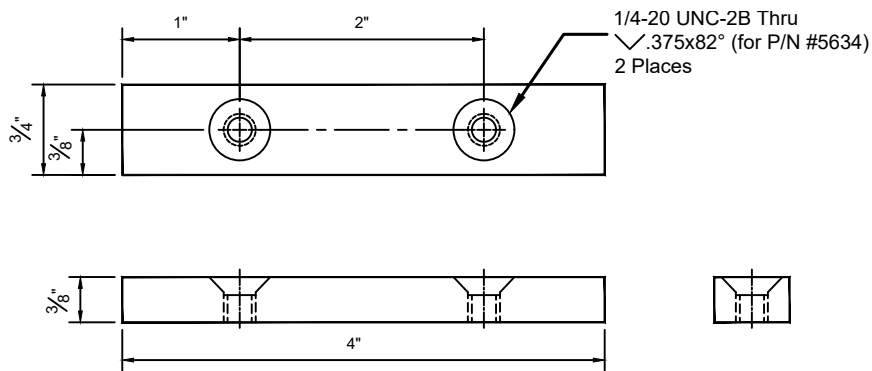
Notes:

All blockout width shall be 2x greater than the depth.

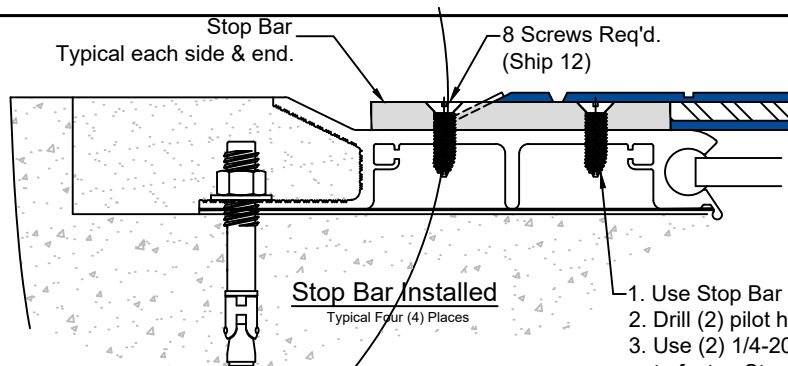
All yields are approximate and do not include allowance for uneven blockouts, waste etc..

APPENDIX 'A'

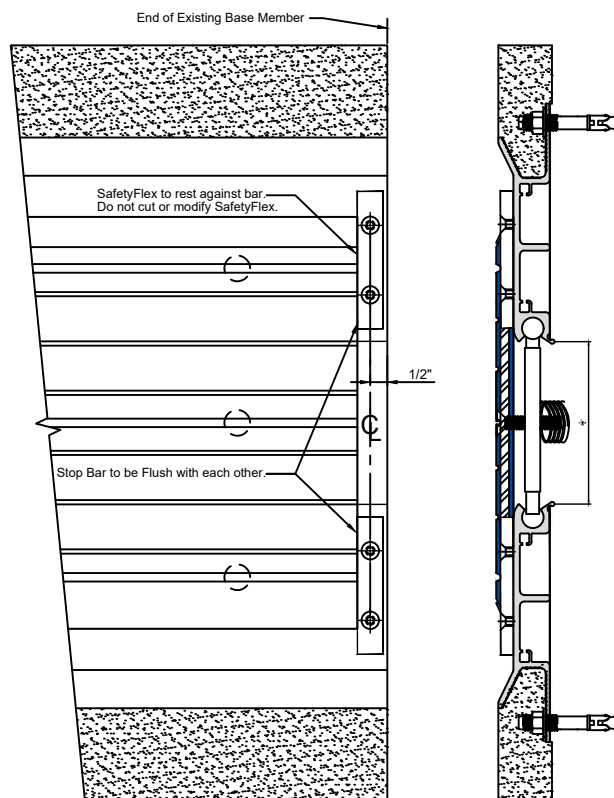
See drawing below for proper installation of the Stop Bars



Stop Bar (Optional)



1. Use Stop Bar to locate holes.
2. Drill (2) pilot holes in Base Member @ each location.
3. Use (2) 1/4-20 Flat Head SS Self-Tapping Screws to fasten Stop Bar.



Partial Plan View

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