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INSTALLATION INSTRUCTIONS FOR 6" THRU 10" FACE SEAL EXPANSION JOINT COVER SYSTEMS

Revised 10/25/11
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INSTALLATION INSTRUCTIONS FOR BALCO, INC. 6" THROUGH 10" FACE SEAL EXPANSION JOINT COVERS

The following installation instructions are very important. Read them carefully, and be sure you understand them completely before you begin any work.

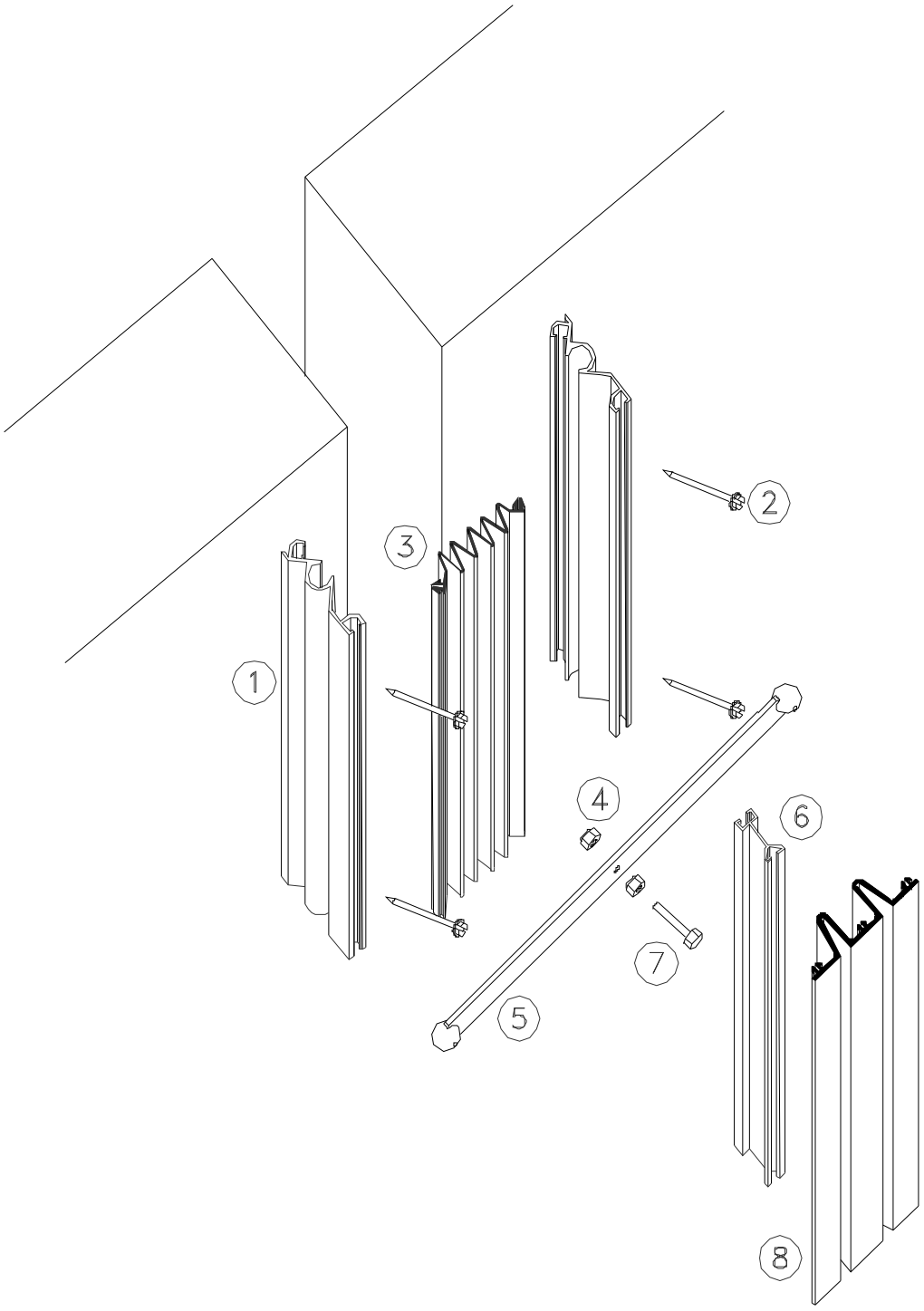

Figure 1

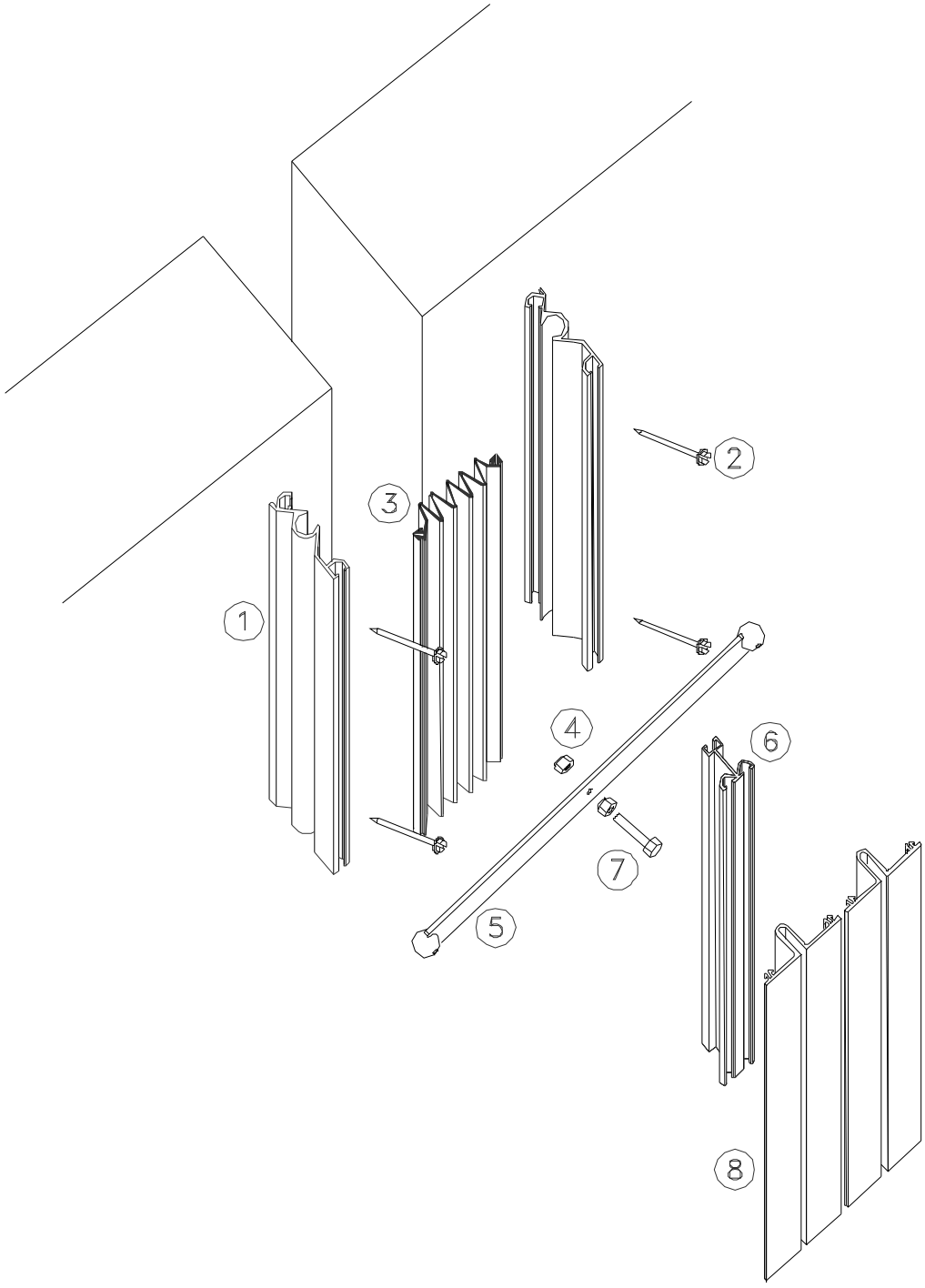

Figure 2

STORAGE & HANDLING

The expansion joint covers are shipped unassembled. Upon receipt, this product should be stored in the horizontal position in a clean, dry location. This is a finished product. Store this product in a protected area.

PARTS

1. Base Member Subchannel
2. Fasteners
3. Back Seal
4. Lock Nuts
5. Centering Bar
6. Subchannel
7. Subchannel/Centering Bar Bolt
8. Face Seal (UV-Rated or Non-UV-Rated)*

* UV-Rated Face Seals are differentiated by a continuous indentation mark on the back side of the seal.

TOOLS REQUIRED

This is a list of tools and materials recommended for use in the installation of these joint systems. Tools and materials in this list are not provided by Balco, Inc.

A. Drill Bits for Base Members (Metal).
B. Drill Bits for Concrete (if required)
C. Electric Drill
D. Phillips Head Drill Bit
E. Caulking Gun
F. Weatherproofing Sealant
G. Miter Box
H. Hacksaw (for cutting Face Seal)
I. Wallpaper Roller (1/2")

INSTALLATION

These installation instructions are for use in the installation of Wall and Ceiling Expansion Joint Cover Types FCWW-6, FCWW-7, FCWW-8, FCWW-9, FCWW-10, TCWW-6, TCWW-7, TCWW-8. TCWW-9, TCWW-10, FCVS-6, FCVS-8, FCVS-10, TCVS-6, TCVS-8, and TCVS-10. One configuration of FCWW-X is illustrated in Figure 1. Another configuration of FCWW-X is illustrated in Figure 2. The joint cover system shall be installed as follows:

STEP 1. Review Balco, Inc. approved shop drawings for types and locations.

STEP 2. Select a base member subchannel, and mark the locations of the anchor holes on the base member along its I.D. mark. The anchor holes are spaced a maximum of 20" o.c. with an anchor hole a nominal 3" from each ends of the extrusion.

STEP 3. Drill the anchor holes into the base member subchannel at the locations marked in Step 2 (see Figure 3). Repeat Step this procedure for each base member subchannel section.

NOTE: BASE MEMBERS INSTALLED AT TRANSITIONS IN THE JOINT(S), 90° PERPENDICULAR AND SAME-PLANE, MUST BE MITERED APPROPRIATELY.

STEP 4. If fire barrier is provided with the system, install it at this time. Install the fire barrier in accordance with the installation instructions for the type of fire barrier provided.

STEP 5. Select the base member subchannel and its fasteners. If additional watertightness is required select a weatherproofing sealant, by others, and place

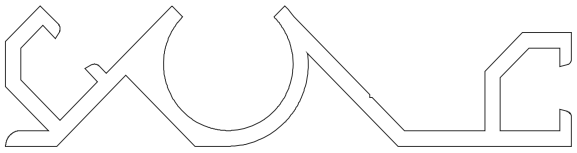

Figure 3

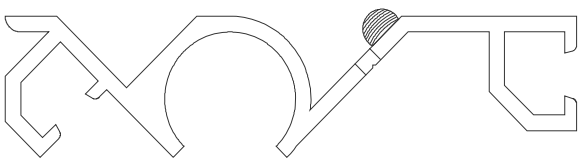

Figure 4

a continuous bead of it on the back side of the base member subchannel (see Figure 4).

STEP 6. If the wall is concrete or masonry, place the base member subchannel inside the joint in its properly installed position against the wall. Ensure that the front of the base member subchannel is 1/8" from the surface of the wall. This will allow the face seal to be nominally flush with the wall. Also ensure that the base member subchannel is level and properly aligned. Using the base member subchannel as a template, mark the locations for the anchor holes on the concrete or masonry (see Figure 5). Remove the base member subchannel from the joint, and drill the anchor holes into the substrate at the marked locations.

Figure 5

NOTE: DRILL ANCHOR HOLES IN THE CONCRETE OR MASONRY 1/4" DEEPER THAN THE ANCHOR LENGTH. OBSERVE NORMAL SAFETY PRECAUTIONS WHEN DRILLING INTO CONCRETE OR MASONRY TO AVOID ALL UTILITIES AND RE-BAR. CLEAN AWAY ALL REFUSE FROM THE INSTALLATION AREA.

STEP 7. For all wall constructions, place the base member subchannel into its installed position. Align the base member subchannel anchor holes with any anchor holes in the wall. Ensure that the front of the base member subchannel is 1/8" from the surface of the wall. Ensure that the base member subchannel is level and properly aligned. Attach the base member subchannel to the wall using the fasteners provided by the factory.

Figure 6

STEP 8. Repeat the base member subchannel installation procedure above for the opposite corresponding base member subchannel (see Figure 6).

STEP 9. Select the back seal, if supplied. Measure 3" from the end of the back seal (BS800 or BS1200) and mark the back seal at that location. This 3" of excess back seal will be left at the bottom of the joint system to funnel water away from the building (see Figure 17 at the end of these instructions for back seal drainage).

Figure 7

STEP 10. Fill the back seal retainer tracks of the installed base members with weatherproofing sealant (by others) as illustrated in Figure 7.

STEP 11. Beginning at the bottom and leaving the 3" of excess back seal at the joint bottom, insert the back

seal's arrows into the corresponding base member back seal retainer track. Use a wallpaper roller (by others, 1/2" width) to roll the arrows into the tracks continuously along the back seal's length (see Figure 8).

NOTE: SEAL THE EXCESS BACK SEAL AT THE BOTTOM OF THE JOINT WELL. USE A WEATHERPROOFING SEALANT (BY OTHERS).

STEP 12. If it is necessary to transition the back seal, 90° (perpendicular or same-plane), conform the water barrier to the transition and insert the back seal arrows into the base member tracks as normal. If it is necessary to splice the back seal (types BS800 through BS1200), cut the arrows away from the top mating section of the back seal (a minimum of 6") and lap the bottom mating section of back seal under it.

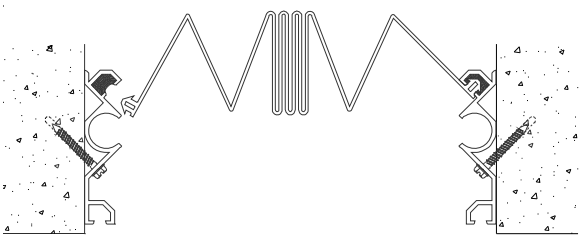

Figure 8

STEP 13. Determine the number of centering bars required for the section of the joint cover system. The centering bars are spaced 20" O.C. with a centering bar placed at one-half the nominal joint width from each end of the base member sections. Select those centering bars, the centering bar nuts, and the centering bar bolts.

NOTE: CENTERING BAR INSTALLATION MUST BE UNIFORM. ALL CENTERING BARS MUST BE INSTALLED DIAGONALLY AND MUST BE PARALLEL WITH ONE ANOTHER.

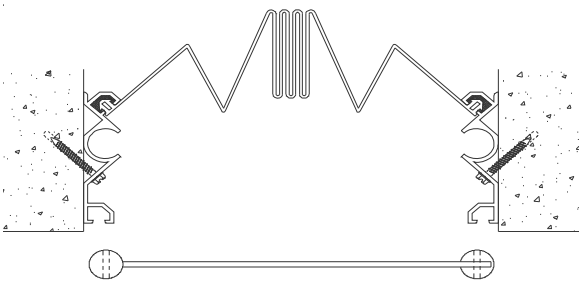

Figure 9

STEP 14. Select one of the centering bars (see Figure 9) and insert one of its spheres into the corresponding base member subchannel. Insert the other sphere into the opposite base member channel (see Figure 10). Repeat the centering bar installation procedure for each of the centering bars for the section of the joint cover system.

STEP 15. Select a section of the subchannel, If the subchannel supports a transition in the face seal, miter the subchannel as necessary for the transition. Determine the location of each centering bar along the subchannel and mark those locations on the subchannel

STEP 16. Select centering bar bolts and nuts for each centering bar in the section of the joint cover being installed. Determine the location of each centering bar along the subchannel and mark those locations on the subchannel.

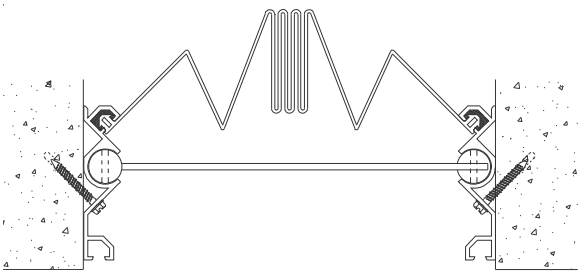

Figure 10

STEP 17. Insert the head of each centering bar bolt into the subchannel receiver and slide each bolt into its installed position, the locations marked in Step 15.

STEP 18. Using the lock nuts provided by the factory, fasten each centering bar bolt into position along the subchannel (see Figure 11).

STEP 19. Place the subchannel, with attached bolts, in its installed position between the installed base members. Slide the first centering bar along the base members' tracks until the anchor hole in the centering bar is aligned with the first bolt in the subchannel's receiver.

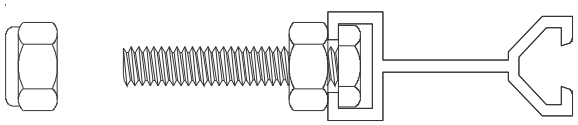

Figure 11

STEP 20. Insert the bolt through the centering bar, and attach the centering bar to the subchannel using one of the jamb nuts provided by the factory (see Figure 12), Ensure that the centering bar maintains the proper position. Repeat this procedure for each subsequent centering bar in this section of the joint cover system.

STEP 21. Abutting sections of the subchannel must be spliced together. This applies to all transitions as well as standard splices.

NOTE: MATING SECTIONS OF THE SUBCHANNEL MUST BE MITERED, AS APPROPRIATE, AT INSIDE CORNER TRANSITIONS, AT OUTSIDE CORNER TRANSITIONS, AND AT 90° SAME-PLANE TRANSITIONS.

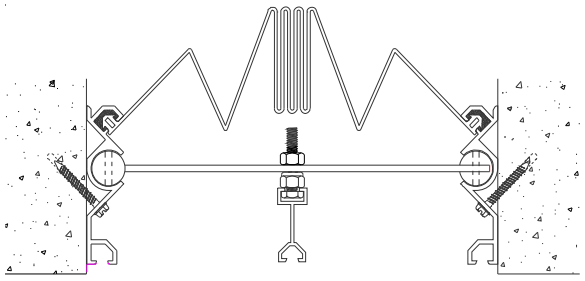

Figure 12

STEP 22. If necessary for a transition, miter the subchannel to match the mating, installed subchannel (see Figure 13)

STEP 23. Select the splice bar, the splice bar bolts and the lock nuts. Slide two (2) splice bolts into the splice end of the receiver of each section of mating subchannel . Ensure that the splice bar conforms to the splice or transition.

STEP 24. Insert the splice bolts in one of the subchannel's receivers through the anchor holes in one leg of the splice bar.

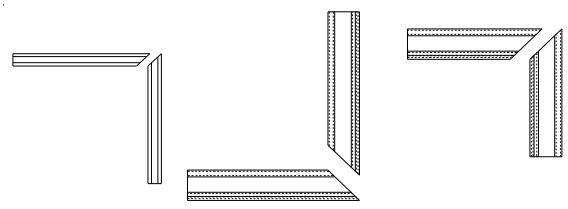

Figure 13

STEP 25. Place the mating subchannel into its installed position abutting the installed section of the subchannel, inserting the splice bolts in the other subchannel's receiver through the anchor holes in the

other leg of the splice bar. Ensure that the splice bar is nominally centered over the splice or transition.

STEP 26. Using the lock nuts, attach the splice bar to both of the mating subchannels (see Figure 14).

NOTE: IF TRIMMING OR MITERING THE FACE IS NECESSARY, BALCO, INC. RECOMMENDS USING A HACKSAW.

STEP 27. Determine the length of face seal required for the installation. Mark the face seal at the location at which it needs to be cut to attain the required length.

STEP 28. Place the face seal into the miter box at the mark. Flooding the area with water to lubricate the saw blade, cut the face seal by applying constant downward force on the hacksaw frame. Making the cut with one stroke will minimize ragged edges on the face seal.

NOTE: FOR VERTICAL FACE SEAL RUNS GREATER THAN 20 FEET, PLACE A BEAD OF SIKAFLEX-1A (OR EQUIVALENT) INTO THE TOP 12" OF THE BASE MEMBERS AND SUBCHANNEL FACE SEAL ARROW TRACKS (RAL5 AND RAL7)

STEP 29. Place the face seal, or face seals, into it/ their installed position, and beginning 1/4" from the bottom of the joint, insert the selected face seal's arrows into the corresponding track in the base members and subchannel (see Figure 16).

STEP 30. Use a wall paper roller (by others, 1/2" width) to roll the arrows into the tracks continuously along the length of the face seal. Lubricating the face seal's arrows with soapy water or liquid soap can make installation of the face seal easier. Do not use oils or oil based lubricants on the face seal arrows.

NOTE: THE 1/4" GAP AT THE BOTTOM OF THE FACE SEAL ALLOWS WATER TO DRAIN FROM THE SYSTEM.

STEP 31. If it is necessary to provide a sealed splice or transition for the face seal, refer to the appropriate separate set of instructions for splicing face seals (Santoprene).

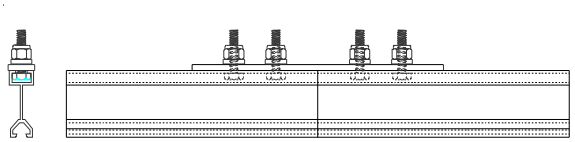

Figure 14

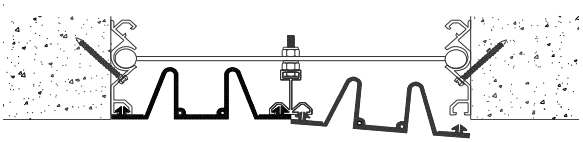

Figure 15

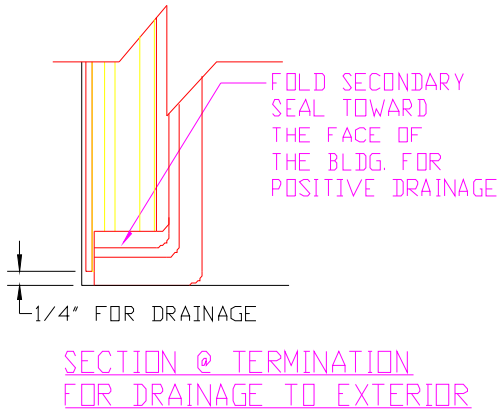

Figure 16

WARRANTY POLICY

Balco, Inc. warrants to its purchasers that all products sold by it will be free from manufacturing and material defects. Any defective product will be replaced or repaired free of any charge, provided a claim is brought to our attention, in writing, within the established warranty period following the date of shipment by us and provided our examination shows the product has failed under the terms of this warranty. The established warranty period for exterior joint cover systems (Duraflex™) is five (5) years provided the systems are installed by a Balco Certified Installer. The established warranty period for grids and mats is two (2) years. The established warranty period for all other Balco, Inc. products is one (1) year. Balco, Inc. will not be responsible for installation costs involved in such repair or replacement. Balco, Inc. shall have no obligation under this warranty if owner subjects materials to improper conditions (refer to Balco's installation instructions) This is in lieu of all other warranties, expressed or implied, and is the sole warranty extended by Balco, Inc. Our liability under this warranty is limited to repair or replacement and does not include any responsibility for consequential or other damage of any nature. It is further agreed and understood that the price stated for the seller's products is consideration for the limitation of seller's liability hereunder.

REGISTERED TRADEMARKS:
"VINYLINES" "SAF-T-GLO"
"METAFLEX" "SAF-TEN BEVEL"
"SENTRY" "DURAFLEX"
"ILLUMI-TREAD"

BALCO, INC. PATENT NUMBERS:
5,357,727; 5,782,044; 5,829,216;
5,832,678; 6,014,848; 6,115,980;
6,581,347; 6,942,419; 6,955,017;
6,962,026; 7,104,717; 7,856,781
SAF-T-GLO patent pending

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SPLICING INSTRUCTIONS FOR SANTOPRENE FACE SEALS

Revised 04/14/06
Document Control No. EJCI3020

INSTRUCTIONS FOR SPLICING BALCO, INC. SANTOPRENE FACE SEALS

The following installation instructions are very important. Read them carefully, and be sure you understand them completely before you begin any work.

STORAGE & HANDLING

Store this product in a clean, dry location. This is a finished product. Store this product in a protected area.

TOOLS REQUIRED

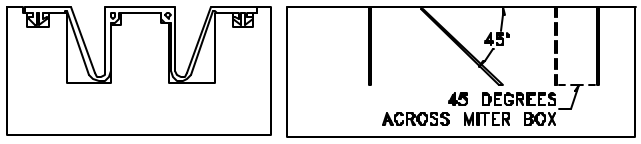
This is a list of tools recommended for use in the splicing of Santoprene Face Seals. Tools are not provided by Balco, Inc.

A. Hack Saw
B. Miter Box[1] (by others)
C. Utility Knife
D. Splicing Iron[2]
E. Heat Knife[3] (optional)
F. Soldering Iron (optional)
G. Wire Brush

[1] The Miter Box must be wide enough to easily accommodate the face seal width. Balco, Inc. recommends that the Miter Box be fabricated in the field and that it conform to the general configuration illustrated in Figure 1 below.

[2] Balco, Inc. recommends use of a Splicing Iron such as those commercially available from J P Specialties, Inc., 551 Birch Street, Lake Elsinore, CA 92530; phone: (951) 674-6869; toll-free: (800) 821-3859. The dimensions of the Splicing Iron required are dependent on the width of the face seal.

[3] Balco, Inc. recommends use of a Thermocutter (Heat Knife) such as those commercially available from Abbeon Cal, Inc., 123 Gray Avenue, Santa Barbara, CA 93101; phone: (805) 966-0810; toll-free: (800) 922-0977.



WOODEN MITER BOX (BY OTHERS)
ROUTED TO FIT FACE SEAL

Figure 1

INSTRUCTIONS:

These instructions are for use in splicing Balco, Inc. Face Seals types SANW200 through SANW900 and VS200S through VS900S used in FCWW Series, TCWW Series, FCVS Series and TCVS Series Expansion Joint Cover Systems. Splices of the Face Seals can be accomplished using one of the following two methods. Splices can be easily completed in the field by using a heat fusing process as described in METHOD I below. Splices can also be easily completed in the field using an optional adhesive splice kit and the procedures described under METHOD II below.

METHOD I - HEAT FUSING

STRAIGHT-LINE SPLICES

Whenever straight-line splices occur, always splice the base members and the face seal at different locations along the joint run. The minimum required spacing between the splice locations is 1'-0".

STEP 1. Review Balco, Inc. approved shop drawings for types and locations.

STEP 2. Install the joint cover system's base members and back seal (if provided),

STEP 3. Select the mating sections of face seal.

STEP 4. Select the splicing iron.

STEP 5. Allow the splicing iron to heat in accordance with the manufacturer's recommendations.

STEP 6. Place the end of each mating section of face seal against the heated splicing iron. Allow the splicing iron to heat the end of each of the face seal sections to be spliced. Continue heating the end of each section of face seal until the Santoprene is molten. Do not allow the Santoprene to heat until the material begins to bubble.

STEP 7. Before the face seal ends have time to cool, remove the splicing iron and press the heated ends of the face seal sections tightly together. Ensure that the sections of face seal are properly aligned and level with one another.

NOTE: A HEAT KNIFE (THERMOCUTTER) MAY BE USED IN PLACE OF A SPLICING IRON. AFTER EACH SPLICE OPERATION, CLEAN THE SURFACE OF THE SPLICING IRON OR HEAT KNIFE BLADE USING A WIRE BRUSH.

STEP 8. Allow the splice to cool for two (2) minutes. Ensure that the splice seal is adequate.

STEP 9. If the surface appearance of the face seal splice is unsatisfactory, use a heated soldering iron to burnish (smooth) the front surface of the splice.

STEP 10. Complete the installation of the face seal in accordance with the installation instructions appropriate for the system provided.

90° CORNER SPLICES

The following procedures are for use in the fabrication of 90° face seal splices, both horizontal-to-vertical and vertical-to-horizontal.

STEP 1. Review Balco, Inc. approved shop drawings for types and locations.

STEP 2. Miter one end of the base members of the first section of the joint cover system to be installed at the corner. Miter the base members at a 45° angle.

STEP 3. Install the mitered base members in accordance with the installation instructions appropriate for the system provided. Ensure that the mitered ends are installed at the corner.

STEP 4. Select the mating base member sections for the corner.

STEP 5. Miter one end of the each of the base members selected in Step 4. These base members will mate with the installed corner base members mitered in Step 2. Miter these base members so that they will fit with the mitered base members already installed at the corner.

STEP 6. Install the mating base members mitered in Step 5 in accordance with the installation instructions appropriate for the system provided. Ensure that the mitered sections of the base members abut together as tightly as possible.

STEP 7. Select the back seal (if specified and purchased).

STEP 8. Install the back seal (if required) in accordance with the installation instructions appropriate for the system provided.

STEP 9. Select the mating sections of face seal.

STEP 10. Using a miter box and a hack saw, miter the end of one section of the face seal for the first corner section of the joint cover system . Miter the face seal at a 45^{o} angle. Ensure that the face seal is of sufficient length so that entire miter will extend just above the corner of the substrate when the face seal section is installed.

STEP 11. Miter the mating section of the face seal so that it will fit with the face seal mitered in Step 10. Ensure that the face seal is of sufficient length so that entire miter will extend just beyond the corner of the substrate when the face seal section is installed.

STEP 12. Select the splicing iron.

STEP 13. Allow the splicing iron to heat in accordance with the manufacturer's recommendations.

STEP 14. Select the mating sections of face seal.

STEP 15. Place the end of each mating section of face seal against the heated splicing iron. Allow the splicing iron to heat the end of each of the face seal sections to be spliced. Continue heating the end of each section of face seal until the Santoprene is molten. Do not allow the Santoprene to heat until it bubbles.

STEP 16. Before the face seal ends have time to cool, remove the splicing iron and press the heated ends of the face seal sections tightly together. Ensure that the sections of face seal are properly aligned and level with one another.

NOTE: A HEAT KNIFE MAY BE USED IN PLACE OF A SPLICING IRON. AFTER EACH SPLICE OPERATION, CLEAN THE SURFACE OF THE SPLICING IRON OR HEAT KNIFE BLADE USING A WIRE BRUSH.

STEP 17. Allow the splice to cool for two (2) minutes. Ensure that the splice seal is adequate.

STEP 18. If the surface appearance of the face seal splice is unsatisfactory, use a heated soldering iron to burnish (smooth) the front surface of the splice.

STEP 19. Engage the face seal splice with the installed base members and complete the installation of the face seal in accordance with the installation instructions appropriate for the system provided.

METHOD II - ADHESIVE

STRAIGHT-LINE SPLICES

Whenever straight-line splices occur, always splice the base members and the face seal at different locations along the joint run. The minimum required spacing between the splice locations is 1'-0".

STEP 20. Review Balco, Inc. approved shop drawings for types and locations.

STEP 21. Install the joint cover system's base members and back seal (if provided),

STEP 22. Select the mating sections of face seal.

STEP 23. Ensure that the mating ends of the seal sections to be spliced together have fresh, straight cuts.

STEP 24. Select the Adhesive Splice Kit. Using Toluene and a clean rag, clean the mating seal surfaces.

STEP 25. Select the Primer and one brush from the Splice Kit, and using the brush, apply the primer to the mating seal surfaces.

STEP 26. Select the Adhesive and the other brush (clean) from the Splice Kit. Using the brush, apply the adhesive to one of the mating ends.

STEP 27. Press the mating seal ends together and hold them together for at least one (1) minute.

90° CORNER SPLICES

The following procedures are for use in the fabrication of 90° face seal splices, both horizontal-to-vertical and vertical-to-horizontal.

STEP 28. Review Balco, Inc. approved shop drawings for types and locations.

STEP 29. Miter one end of the base members of the first section of the joint cover system to be installed at the corner. Miter the base members at a 45° angle.

STEP 30. Install the mitered base members in accordance with the installation instructions appropriate for the system provided. Ensure that the mitered ends are installed at the corner.

STEP 31. Select the mating base member sections for the corner.

STEP 32. Miter one end of the each of the base members selected in Step 31. These base members will mate with the installed corner base members mitered in Step 29. Miter these base members so that they will fit with the mitered base members already installed at the corner.

STEP 33. Install the mating base members mitered in Step 32 in accordance with the installation instructions appropriate for the system provided. Ensure that the mitered sections of the base members abut together as tightly as possible.

STEP 34. Select the back seal (if specified and purchased).

STEP 35. Install the back seal (if required) in accordance with the installation instructions appropriate for the system provided.

STEP 36. Select the mating sections of face seal.

STEP 37. Using a miter box and a hack saw, miter the end of one section of the face seal for the first corner section of the joint cover system . Miter the face seal at a 45° angle. Ensure that the face seal is of sufficient length so that entire miter will extend just above the corner of the substrate when the face seal section is installed.

STEP 38. Select the Adhesive Splice Kit. Using Toluene and a clean rag, clean the mating seal surfaces.

STEP 39. Select the Primer and one brush from the Splice Kit, and using the brush, apply the primer to the mating seal surfaces.

STEP 40. Select the Adhesive and the other brush (clean) from the Splice Kit. Using the brush, apply the adhesive to one of the mating ends.

STEP 41. Press the mating seal ends together and hold them together for at least one (1) minute.

WARRANTY POLICY

Balco, Inc. warrants to its purchasers that all products sold by it will be free from manufacturing and material defects. Any defective product will be replaced or repaired free of any charge, provided a claim is brought to our attention, in writing, within the established warranty period following the date of shipment by us and provided our examination shows the product has failed under the terms of this warranty. The established warranty period for exterior joint cover systems (Duraflex™) is five (5) years provided the systems are installed by a Balco Certified Installer. The established warranty period for grids and mats is two (2) years. The established warranty period for all other Balco, Inc. products is one (1) year. Balco, Inc. will not be responsible for installation costs involved in such repair or replacement. Balco, Inc. shall have no obligation under this warranty if owner subjects materials to improper conditions (refer to Balco's installation instructions) This is in lieu of all other warranties, expressed or implied, and is the sole warranty extended by Balco, Inc. Our liability under this warranty is limited to repair or replacement and does not include any responsibility for consequential or other damage of any nature. It is further agreed and understood that the price stated for the seller's products is consideration for the limitation of seller's liability hereunder.

REGISTERED TRADEMARKS:
"VINYLINES" "SAF-T-GLO"
"METAFLEX" "SAF-TEN BEVEL"
"SENTRY" "DURAFLEX"
"ILLUMI-TREAD"

BALCO, INC. PATENT NUMBERS:
5,357,727; 5,782,044; 5,829,216;
5,832,678; 6,014,848; 6,115,980;
6,581,347; 6,942,419; 6,955,017;
6,962,026; 7,104,717; 7,856,781
SAF-T-GLO patent pending