BALCO, INC. DURAFLEX™ JOINT SYSTEM

Installation Instructions for SCPQ Series Floor Joint Cover Systems

The following installation instructions are very important. Read them carefully, and be sure you understand them completely before you begin any work. Upon receipt, this product should be stored in the horizontal position in a clean, dry location. Store this product in a protected area. Store Balco, Inc. Elastomeric Concrete at 50°F - 80°F. Do not allow components of Balco, Inc. Elastomeric Concrete - EC11 to freeze. Balco, Inc. recommends that installers wear insulated gloves, Neoprene or other appropriate material, safety glasses, long sleeve shirts and long pants. The work area shall be well ventilated. The recommended shelf life of Balco Inc. EC11 is nine (9) months from the date of manufacture. All users should familiarize themselves with the Elastomeric Concrete MSDS.

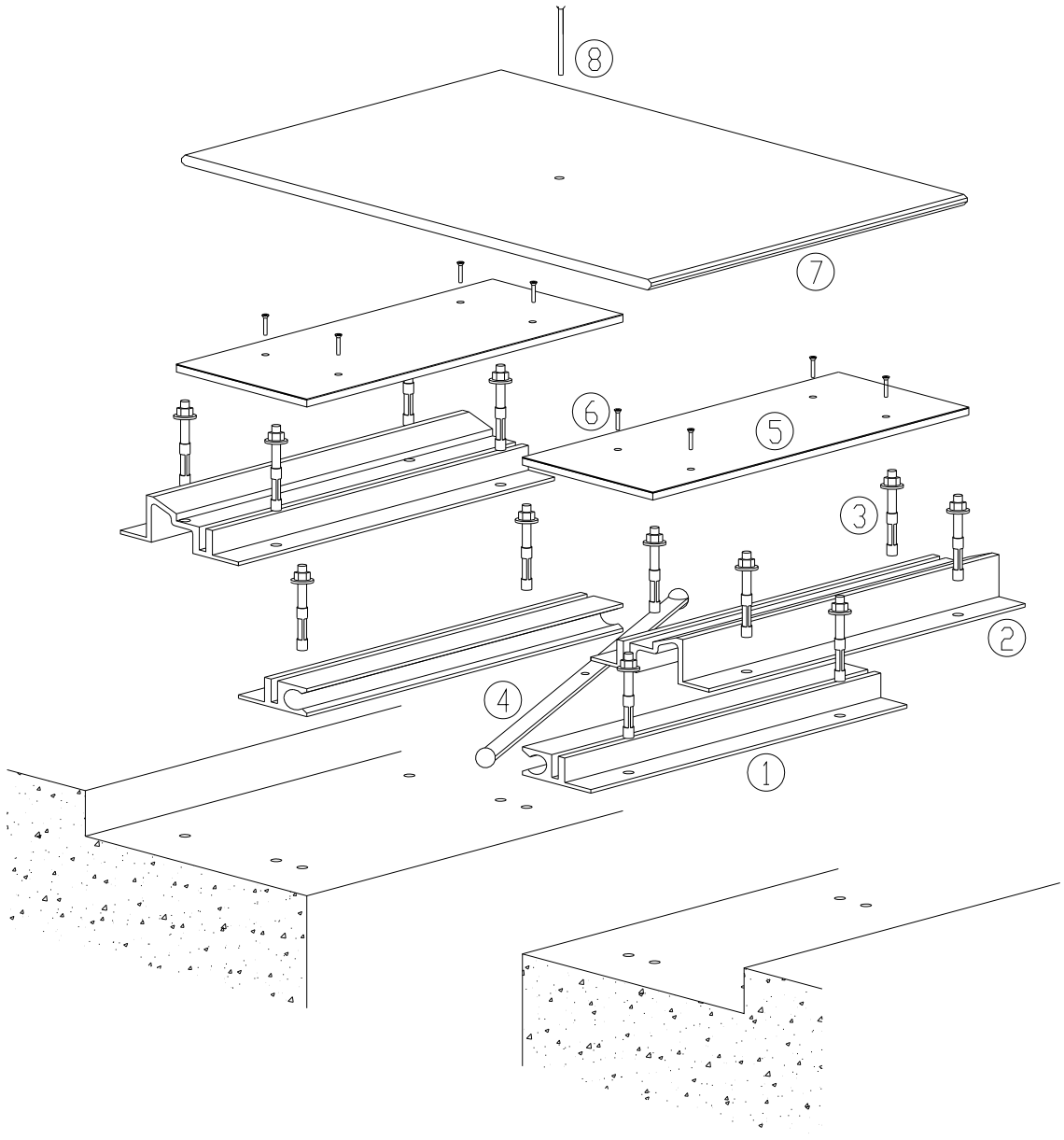

Figure 1

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Tools required :

This is a list of tools and materials recommended for use in the SCPQ installation. These tools and materials are not provided by Balco, Inc.

A. Tape Measure
B. Level
C. Concrete Saw
D. Disc Grinder
E. Diamond Grinding Disc
F. Hammer
G. Concrete Patch Material[1]
H. Sandblasting Equipment
I. Air Compressor[2]
J. Utility Knife
K. Electric Drill
L. 3/8" Drill Bits (for concrete)
M. Screw Drivers[3]
N. Socket Drivers
O. Grout (High Strength)
P. Jiffy/Paddle Type Mixer
Q. Mixing Pails
R. Spatula
S. Clean White Rags
T. Tape
U. Kraft Paper
V. Paint Brushes
W. Trowels

1 Must be pre-approved by Balco, Inc.
2 Fitted with an oil trap.
3 Phillips and Slotted.

Parts:

1. SCP1
2. SCP3
3. Expansion Anchors
4. Centering Bar
5. Cover Plate
6. Cover Plate Anchors
7. Center Plate
8. Centering Bar Bolt
9. EC11, Part A*
10. EC11, Part B*
11. EC11, Aggregate*

* Not shown in Figure 1.

PROCEDURES:

The expansion joint blockout and the expansion joint stem opening must be formed to a uniform width for the entire length of the joint. Assembly and installation of the system are illustrated in Figure 1.

Blockout and Joint Opening Preparation:

A. Verify that the joint is constructed to the dimensions shown on the shop drawings. Verify that the blockout and stem opening of the joint are constructed straight, parallel and plumb. Concrete saws and diamond grinding disks should be used to correct any deviations.

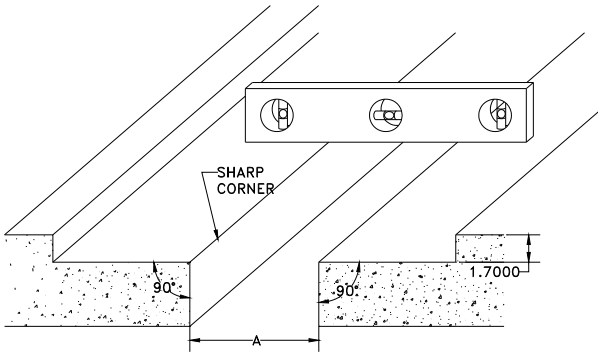

Figure 2

B. The deck and the base of the blockout must be formed level and at the same elevation across the joint (Figure 2). The joint interfaces must be parallel to, and continuously equidistant from, each other. They are to be perpendicular to the base surfaces of the recess - making the corner a perfect “sharp” 90° angle.

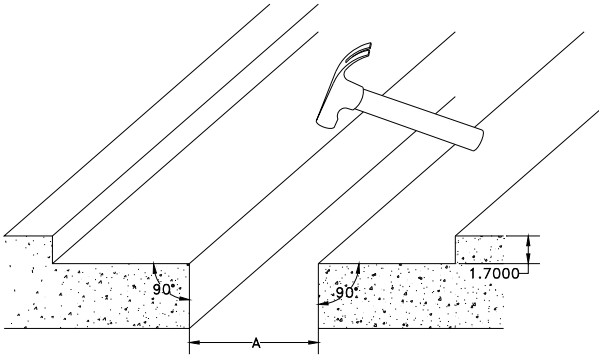

Figure 3

C. Edge spalling, sharp projections and concrete voids (bug holes) shall be repaired using a pre-approved patching material prior to proceeding with the joint installation. Ensure that all repair materials have reached full cure conditions as specified by the repair material manufacturer. Remove all obstructions, such as form work and refuse, from the joint

D. A tooled edge on the corners of the concrete is desired. Radiused edges reduce impact loading effects from vehicles, lessening chances of edge erosion, cracking or spalling.

E. Concrete within the blockout area and adjacent to the joint must be sound. This should be confirmed by tapping these areas with a hammer (Figure 3). If a hollow sound is heard or the concrete cracks, crumbles or loosens, the unsound concrete must be removed and repaired with a structural repair mortar. Repair mortars acceptable to Balco, Inc. include; Thoroc 1060, Emaco T-415 and Sika 123. Contact Balco, Inc. for recommendations on other compatible repair mortars.

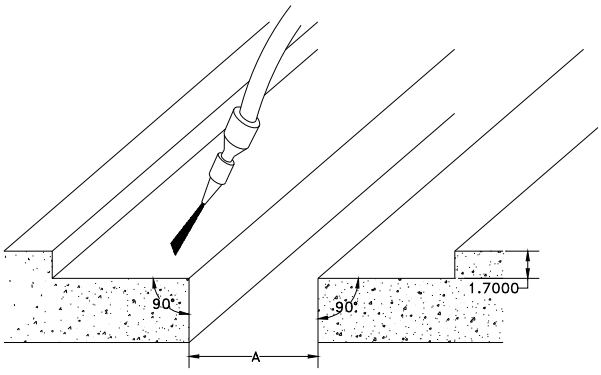

Figure 4

F. Repaired areas must also be sound and be confirmed by tapping these areas with a hammer. If a hollow sound is heard or the repaired area cracks, crumbles or loosens, the unsound repair must be completely removed and repaired again with a structural repair mortar.

G. The blockout should be sandblasted to remove laitance, loosely bonded material and any other contaminant, which may inhibit bonding of the system to the concrete (Figure 4). Should sandblasting not be feasible, the surfaces must be ground with a coarse wheel disc grinder to produce an abraded surface. Take care not to polish the concrete surface, as this can lessen adhesion. After sandblasting or abrading, blow out the area with an air compressor fitted with an oil trap.

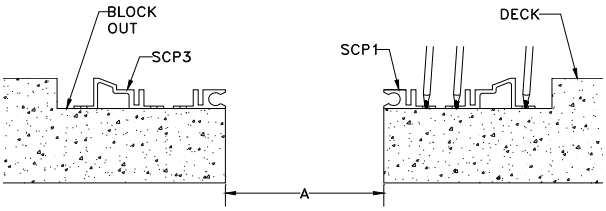

Figure 5

H. Remove oil, grease and other contaminants using an approved solvent.

Installation:

STEP 1. Select two SCP1s and two SCP3s, and place them into their installed positions in the block out. Ensure that they are plumb, level, the proper dimension from one another and properly aligned. Using the SCP1s and SCP3s as templates, mark the locations for the anchors on the concrete (Figure 5). Remove the SCP1s and SCP3s from their installed positions and drill the anchor holes at the marked locations. Remove all dirt and debris from the blockouts.

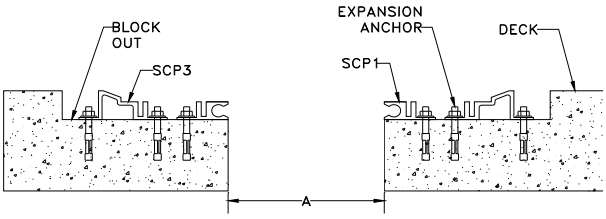

Figure 6

NOTE: OBSERVE NORMAL SAFETY PRECAUTIONS WHEN DRILLING TO AVOID ALL UTILITIES AND RE-BAR.

STEP 2. Place the SCP1s and SCP3s back into their installed positions, and using the fasteners provided by the factory, attach them to the concrete (Figure 6). Ensure that they are plumb, level, and properly aligned.

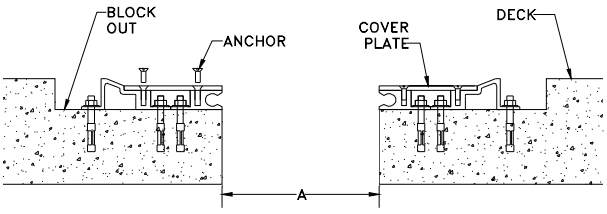

Figure 7

NOTE: FOR INSTALLATIONS EXPOSED TO SIGNIFICANT DAILY AND SEASONAL TEMPERATURE CHANGES, LEAVE A 1/8" GAP BETWEEN ADJOINING SCP1 SECTIONS, ADJOINING SCP3 SECTIONS, ADJOINING COVER PLATES AND ADJOINING CENTER PLATES. THE GAP ALLOWS THE THERMAL EXPANSION OF THE ALUMINUM EXTRUSION OR PLATE.

STEP 3. Select a Cover Plate and the Cover Plate Anchors. Place the Cover Plate into its installed so that the anchor holes in the Cover Plate are aligned with the channels in the SCP1 and the corresponding SCP3, and so that the Cover Plate spans the gap between the SCP1 and its corresponding SCP3. Using the anchors provided by the factory, attache the Cover Plate to the SCP1 and the SCP3 (Figure 7). Repeat this procedure for Cover Plate on the opposite side of the joint.

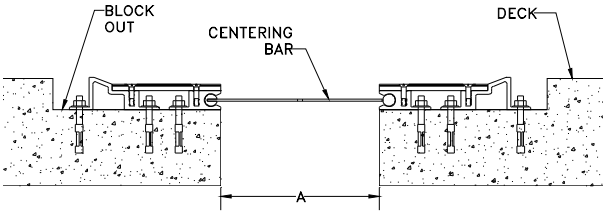

Figure 8

STEP 4. Select a centering bar, and insert one of its polymer spheres into the track of one of the SCP1's. Insert the other sphere into the opposite SCP1's track (Figure 8). Repeat this procedure for each centering bar. Ensure that the centering bars are installed at a diagonal and are parallel to one another.

STEP 5. Select the center plate and place it along the side of the joint, aligning the center plate with its installed position. Using the center plate as a template, slide the centering bars within the base member tracks so that the anchor hole in each centering bar is aligned with one of the anchor holes in the center plate. Ensure that there is a centering bar for each anchor hole in the center plate. Place the center plate into its installed position spanning the joint, and attach the center plate to the centering bars using the centering bar bolts provided

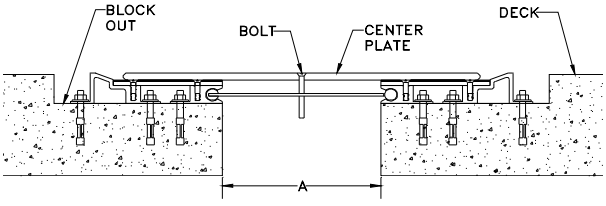

Figure 9

by the factory (Figure 9). Tighten the centering bar bolts by hand until they are firmly in place. Do not overtighten the centering bar bolts.

STEP 6. Apply tape to the deck surfaces adjacent to the block out and to the exposed surfaces of the joint system (Figure 10). Balco, Inc. also recommends that Kraft paper be used in conjunction with the tape to protect the concrete and joint cover surfaces from primer and elastomeric concrete splatter, spills, tracking, etc.

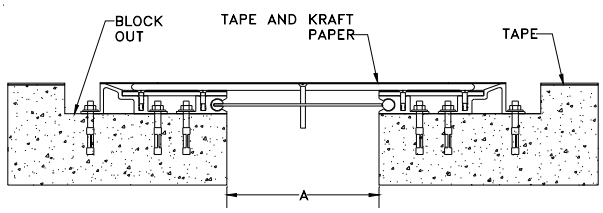

Figure 10

STEP 7. Select a clean 6-gallon pail and one unit of Balco, Inc. Elastomeric Concrete - EC11 (Part A, Part B and Aggregate) (Figure 11). Pour one unit of Elastomeric Concrete - EC11 liquid parts A and B into the pail and briefly mix (5-10 seconds) with a heavy-duty drill and paddle. Immediately and progressively add the pre-measured graded aggregate (Balco EC11 Aggregate) and blend into the liquid until all components are fully mixed.

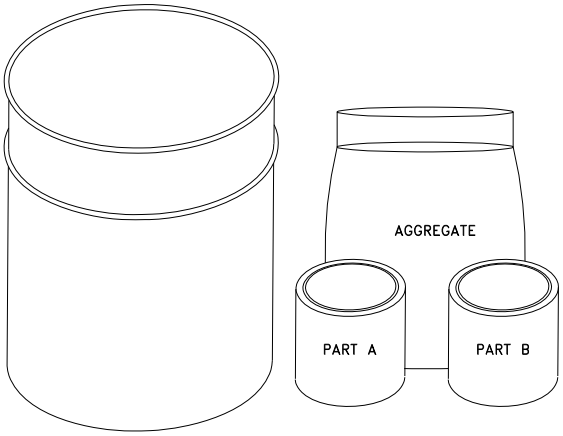

Figure 11

STEP 8. Pour the Balco Elastomeric Concrete - EC11 into the block out and trowel smooth from the upper outer edge of the joint system to the block out corner (Figure 12).

NOTE: THE BALCO ELASTOMERIC CONCRETE - EC11 HAS A SHORT POT LIFE; IT MUST BE MIXED QUICKLY AND IMMEDIATELY APPLIED. WORK QUICKLY. EC11 WORKING LIFE IS 15 MINUTES.

STEP 9. As needed, level off the Elastomeric Concrete and trowel the finish smooth. Trowel the surface flush with the top of the deck. For best results, use a trowel that is wiped in an approved solvent. This will prevent the Elastomeric Concrete from building up on the trowel and provide a smooth finish.

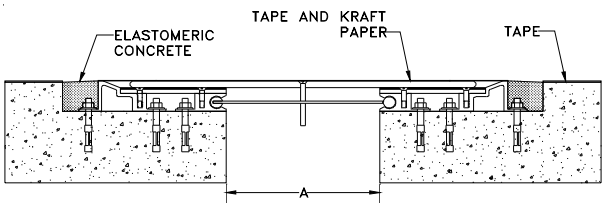

Figure 12

STEP 10. Immediately after placement of the Elastomeric Concrete, remove the tape and Kraft Paper from the joint cover and concrete (see Figure 13), and dispose of the used tape and paper properly. Clean

up the work area, removing all containers, any extra materials, debris, etc.

NOTE: THE INSTALLATION CAN BE OPENED TO TRAFFIC ONCE THE BALCO, INC. ELASTOMERIC CONCRETE - EC11 HAS FULLY CURED, APPROXIMATELY 4-6 HOURS.

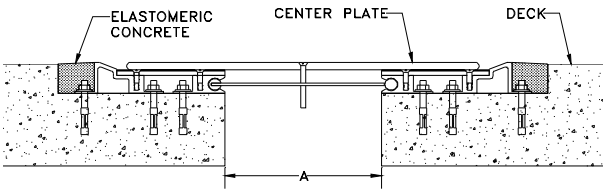

Figure 13

BALCO, INC. DURAFLEX™ JOINT SYSTEM

Splicing Instructions for SCPQ Series Floor Joint Cover Systems

The following splicing instructions are very important. Read them carefully, and be sure you understand them completely before you begin any work. Upon receipt, this product should be stored in the horizontal position in a clean, dry location. Store this product in a protected area. These instructions are for Floor-to-Floor Systems.

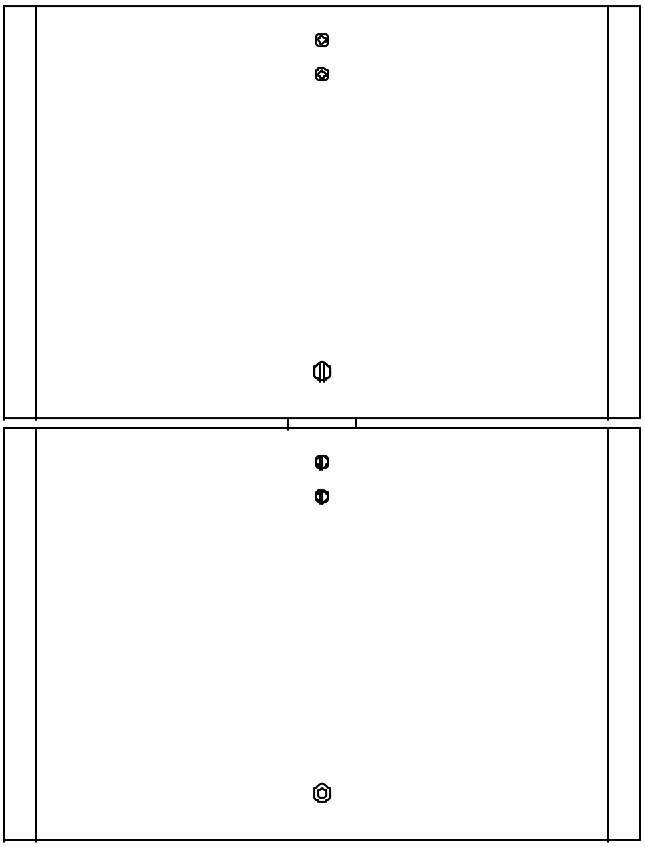

Figure 1

SCPQ SPLICING:

These splicing instructions are applicable to systems for joints 6" and wider. Splice bars are not provided for system for joint systems for joints narrower than 6" width. The cover plates have been predrilled at the factory for splicing. The predrilled cover plates are illustrated in Figure 1.

STEP 1. Select the mating cover plates (Side A and Side B). Select a splice bar. Note that the splice bar has a slotted anchor hole near one end of the bar. Using this slotted anchor hole, select one of the fasteners provided, machine screws and lock nuts, and attach the splice bar to the bottom of the Side A cover plate, see Figure 2. Ensure that the anchor is centered in the splice bar's slotted anchor hole.

STEP 2. Place the Side B cover plate into its position, 1/4" from the mating end of the Side A cover plate. Ensure that the bottoms of both cover plates are away from the installer. Align the Side A cover plate and the Side B cover plate with one another.

Figure 2

STEP 3. Using an 11/64" drill bit, match drill the anchor holes in the splice bar through the anchor holes in the Side B cover plate, see Figure 3.

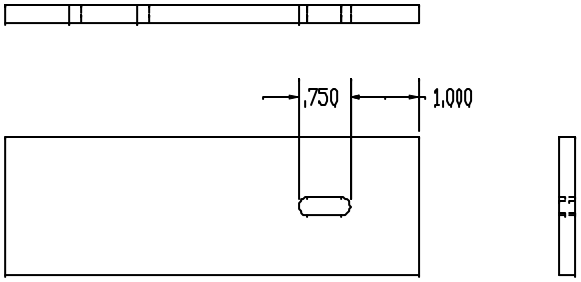

Figure 3

STEP 4. Using the self-tapping screws provided, attach the Side B cover plate to the splice bar, see Figure 4. Ensure that the Side A cover plate and the Side B cover plate remain properly aligned and at the proper distance from one another (1/4" gap).

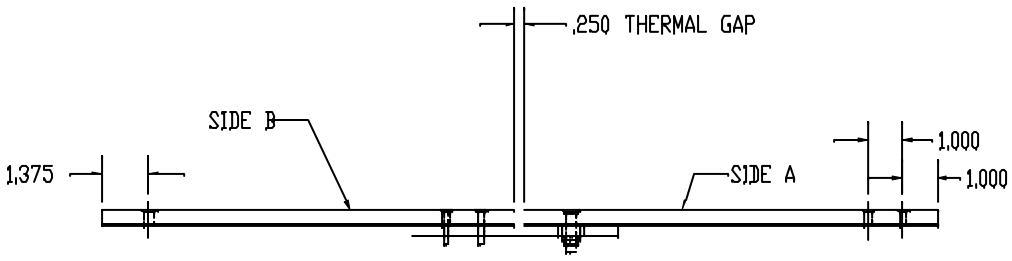

Figure 4

STEP 5. Seal the gap between the cover plates (1/4") using silicone or other suitable sealant (by others). Install the sealant in accordance with the sealant manufacturer's instructions.

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