

Balco Inc.
Design No. BA/EC 120-04
Wall Joint System
MetaFlex® Pro Shear MAX Wall Fire Barrier
UL 2079, ASTM E1966
Rating: 2 Hour
CAN/ULC-S115
FTH Rating: 2 Hour
UL 2079, CAN/ULC-S115
L-Rating: < 5 SCFM/LF, < 7.8 L/s/m
ASTM E1399
Cycling – Class IV

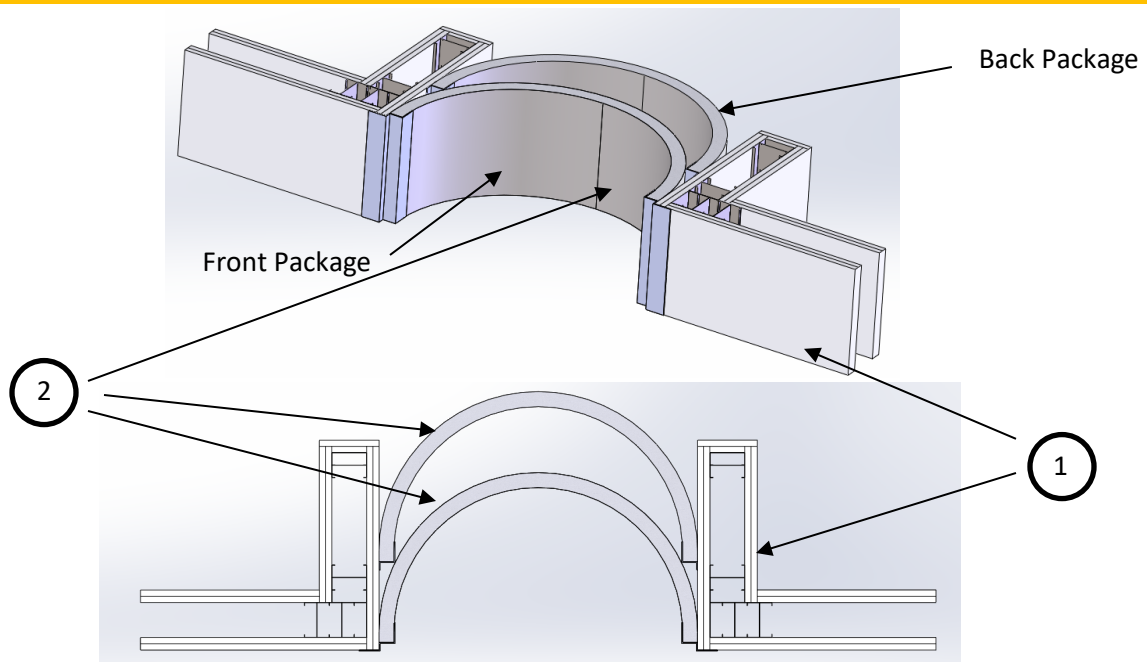


Figure 1. MetaFlex® Pro Shear MAX Wall Joint

Minimum Joint Width	Maximum Joint Width	Minimum Joint Width	Maximum Joint Width
10 in.	39 in.	10 in.	57 in.
10 in.	42 in.	10 in.	60 in.
10 in.	45 in.	10 in.	63 in.
10 in.	48 in.	10 in.	66 in.
10 in.	51 in.	10 in.	69 in.
10 in.	54 in.	10 in.	72 in.

Table 1. Joint Sizes



1. **SUPPORTING WALL CONSTRUCTION:** Use min. 2 hr. rated wall assemblies meeting the minimum requirements listed below:

A. STEEL FRAMING AND GYPSUM: Use a steel framed, gypsum wall assembly made from min. two layers of 5/8 in. thick, Type X gypsum board, fastened to each side of min. 25 GA steel studs (with min. 3-5/8 in. web and 1-1/4 in. flange) in accordance with the listed fire rated design. Gypsum board must be present in the throat of the joint as shown in Figure 1. Build up the wall on both sides of joint with a min. depth of 21 in. Refer to Figure 1 for stud placement. At the buildup use min. of five studs butted tightly, with no fasteners, together, with two (2) pairs of stud's face to face. Perpendicular within the cavity of the buildup and adjacent to the five studs in the cavity of the main wall, three (3) additional studs are to be fitted tightly together, with 1 pair face to face. At the end of the buildup, install two (2) studs butted together. Do not fasten studs together.

B. WOOD FRAMING AND GYPSUM: Use min. 2x4 wood studs in accordance with the corresponding listed design with matching stud placement described in Item 1A. Use min. two layers of 5/8 in. thick, Type X gypsum board, fastened to each side of min. in accordance with the corresponding listed design.

C. CONCRETE WALL: Min. 2-hr rated, solid reinforced concrete wall assembly made from either lightweight or normal weight concrete with a density of 100-150 pcf. Maintain a min. 21-in. depth buildup described in Item 1A.

D. CMU WALL: Min. 2 hr. rated, block CMU walls with min. 21 in. buildup depth described in Item 1A.

2. **WALL JOINT SYSTEM:**

CERTIFIED MANUFACTURER: Balco Inc.

CERTIFIED PRODUCT: Wall Joint System

CERTIFIED MODEL: MetaFlex® Pro Shear MAX 2Hr.

Joint system is comprised of two packages of two layers of blanket. The first interior (back) package is installed nominally 6 in. from the surface of the wall corner. The exterior (front) package is installed flush with the wall. The joint packages may be installed as shown in Figure 1. or installed from the opposite direction.

When required, overlap male and female ends min. 6 in. to form a splice in the joint as specified in the manufacturer's installation instructions. Apply Metacaulk® MC150+ sealant between layers at the splice; min. 3/8 in. bead of sealant at each layer step on the female side.

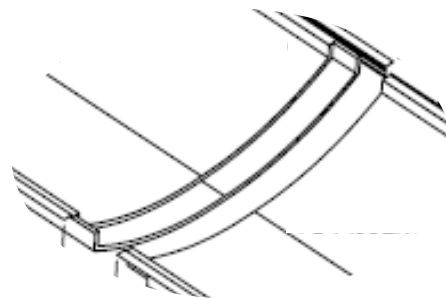


Figure 2. Splice

Install an 8 in. wide, 2 mil stainless steel splice patch (not shown) by spreading Metacaulk® MC150+ on one face of the patch, and adhering



the patch centered over the seam between the two barriers from the concave side of the inner (back) package using two strips of 3M VHB on each edge. Apply additional beads of MC150+ on unadhered edges between patch and foil. Use the following fastenings methods for the indicated type of wall construction.

A. STEEL FRAMING AND GYPSUM

INSTALLATION: The inside mount wall joint system is attached to the wall on each side of the joint of the wall assembly using min. 2-1/2 in. long, #8 self-drilling screws spaced nominally 10 in. on center (oc), and min 4 in. long, #10 screws spaced nominally 10 in. oc driven through a min. 20 ga steel zee mounting channel, running the length of the joint. The 2-1/2 in. fastener is to be driven through corner of the 1-1/2 in. and 3/4 in. faces at angle into the stud, while the 4 in. fastener is driven through the 2-in. face to the stud.

B. WOOD FRAMING AND GYPSUM

INSTALLATION: Follow the same methods as Item 2A, except use similar sized wood screws.

C. CONCRETE WALL INSTALLATION: Follow the same methods as Item 2A, except use similar min. 3/16 in. concrete screws.

D. CMU WALL INSTALLATION: Follow the same methods as Item 2A, except use min. 3/16 in. masonry screws.

3. JOINT COVER: (Not Shown) Width of joint cover varies with joint width and shall overlap the full fire barrier including mounting flanges with a min. of 4 in. overlap onto the supporting wall construction (Item 1). Fasten both sides of each joint cover to the supporting wall construction (right side and left side). Except as noted in Item

4, two joint covers are required, one covering the inner joint package and another covering the outer joint package on the opposite side of the wall. Use one of the joint cover options listed below:

A. Reinforced, Stainless Steel Foil: Attach each cover to wall using min. 2-1/2 in. long, screws, spaced 10 in. oc through a min. 3-1/2 in. wide, 1/8 in. thick aluminum angle. Use #8 screws for steel stud or wood stud construction (screw type as appropriate) and min. 3/16 in. screws for concrete or masonry construction (screw type as appropriate), maintaining factory provided edges on joint cover. The manufacturer-supplied joint cover shall be constructed of a reinforced, min. 2 mil stainless steel foil cover. Overlap ends of cover by a min. of 12 in. at joint cover splices. Additional cover plate may be installed over reinforced foil joint cover. Secure the cover plate according to the manufacturer's instructions.

B. Metal Cover Plate: Cover plate may be aluminum, galvanized steel, carbon steel, or stainless steel and a min. 0.090 in. thick. Fasten each cover plate to the supporting wall construction using min. 2-1/2 in. long, screws, spaced 10 in. oc. Use #8 screws for steel stud or wood stud construction (screw type as appropriate) and min. 3/16 in. screws for concrete or masonry construction (screw type as appropriate).

4. CHASE WALL CONDITION (Not Shown): In conditions where the linear opening is enclosed within a 2-hour fire resistance rated chase wall, the joint cover (Item 3) is not required. Stud layout and min. wall buildup thickness to be maintained (Item 1).



Consult the listing report on the Directory of Building Products (<https://bpdirectory.intertek.com>) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.