

Balco Inc.
Design No. BA/EJV 120-02
Formerly CEJ 247P
Fire Rated Joint System
MetaFlex® 2000
UL 2079, ASTM E1966
Rating: 2 Hour
Cycling – Type IV

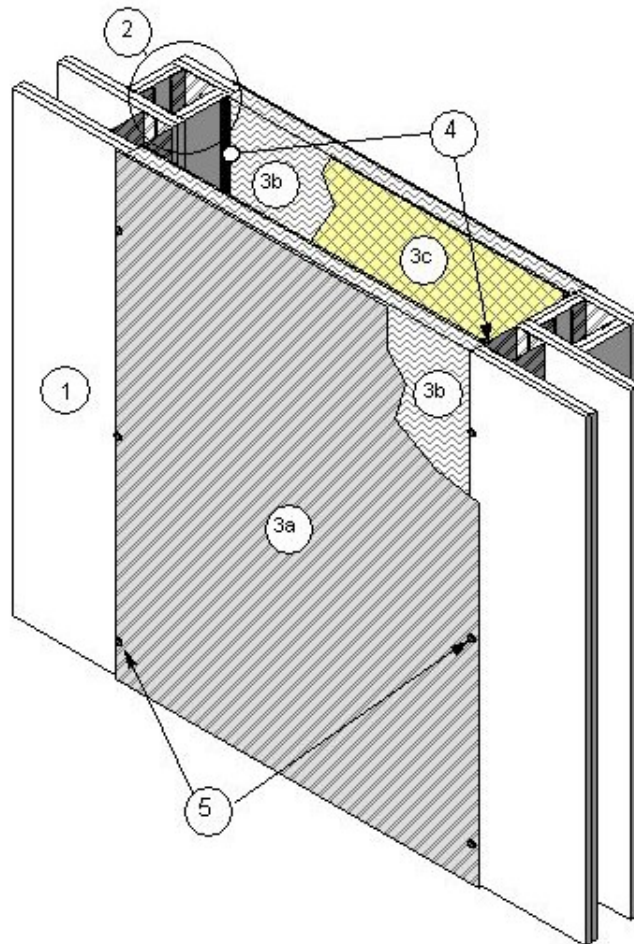


Figure 1. MetaFlex® 2000

1. WALL ASSEMBLY: A two hour fire resistance rated wall assembly constructed of the following:

A. STEEL STUD WALL ASSEMBLY: A two hour rated wall assembly constructed of the following: 25 GA galvanized steel studs

spaced max. 24 in. on center (oc) measuring 3-5/8 in. wide with 1-1/4 in. legs. Double studs at joint face (as shown) or cover joint face with two layers of 5/8 in. thick, Type X gypsum wallboard. Studs attached with min. #6 x 3/8 in. long steel stud framing screws to channel shaped floor



and ceiling runners measuring 1/2 in. deep by 3-5/8 in wide, which are secured to floor and ceiling with 1 in. long concrete fasteners spaced max. 18 in. oc. Studs and runners covered with two layers of 5/8 in. thick, Type X gypsum wallboard on each face. The base layer of gypsum wallboard fastened to steel studs with #6 x 1-1/8 in. long bugle-head Phillips drywall screws spaced 12 in. oc. The face layer of gypsum wallboard fastened with #6 x 1-5/8 in. long bugle-head Phillips drywall screws spaced 8 in. oc. Joint Tape and Compound - vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wallboard and gypsum wall extensions (Item 2) in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2 in. wide paper, plastic or fiberglass tape embedded in first layer of compound over joints in gypsum wallboard. A minimum joint depth of 6 in. created from face layer of gypsum wallboard to face layer of gypsum wallboard. The joint faces may be covered as shown with one or two layers of gypsum wallboard or uncovered with exposed steel stud face flush with gypsum wallboard. Min. 12 in. overall wall depth with gypsum wall extension (Item 2) required for two hr assembly rating.

- B. WOOD STUD WALL ASSEMBLY (NOT SHOWN):** A wall assembly consisting of nominal 2 in. x 4 in. wood studs spaced max. 24 in. oc. Cover joint face with two layers of 5/8 in. thick, Type X gypsum wallboard. Install wood studs between a single bottom plate and double top plate attached with an appropriate sized framing nails. Attach bottom and top plates to floor and ceiling construction. Wood framing is covered with two layers of 5/8 in. thick, Type X gypsum wallboard on each face. The

base layer of gypsum wallboard fastened to wood studs with #6 x 1-1/8 in. long bugle-head Phillips drywall screws spaced 12 in. OC. The face layer of gypsum wallboard fastened with #6 x 1-5/8 in. long bugle-head Phillips drywall screws spaced 8 in. oc. Joint Tape and Compound – vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wall board and gypsum wall extensions (Item 2) in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2 in. wide paper, plastic or fiberglass tape embedded in first layer of compound over joints in gypsum wallboard. A minimum joint depth of 12 in. with gypsum wall extension (Item 2) required for 2 hr assembly rating. At joint opening install double wood studs. Attach two layers of Type X gypsum wall board to face of wood studs at joint opening.

- 2. GYPSUM WALL EXTENSION:** Gypsum wall extensions are required for maximum joint widths greater than 18 in. (nominal joint widths greater than 9 in.) Each min. 6 in. wide by 6 in. deep wall extension is constructed of one of the following:

- A. STEEL STUD WALL EXTENSION:** steel channel shaped floor and ceiling runners measuring 1/2 in. deep by 3-5/8 in. wide set back 1-1/4 in. from joint in gypsum wall assembly and secured to floor and ceiling with 1 in. long concrete fasteners; two 25 GA galvanized steel studs measuring 3-5/8 in. wide with 1-1/4 in. legs attached with screws to channel shaped floor and ceiling runners. One stud attached to the face layer of gypsum wallboard, and two layers of 5/8 in. thick, Type X gypsum wallboard on each of three faces. The base layer of gypsum fastened to steel studs with #6 1-1/8 in. bugle-head Phillips drywall screws spaced



12 in. oc. The face layer of gypsum fastened with #6 x 1-5/8 in. long bugle-head Phillips drywall screws spaced 8 in. OC.

- B. WOOD STUD WALL EXTENSION (NOT SHOWN):** Nominal 2 in. x 4 in. wood single bottom plate and double top plate secured to floor and ceiling set back 1-1/4 in. from joint in gypsum wall assembly and secured to floor and ceiling; two nominal 2 in. x 4 in. wood studs attached to bottom and top plates. One wood stud attached to the face layer of gypsum wallboard, and two layers of 5/8 in. thick, Type X gypsum wallboard on each of three faces. The base layer of gypsum fastened to studs with #6 x 1-1/8 in. bugle-head Phillips drywall screws spaced 12 in. oc. The face layer of gypsum fastened with #6 x 1-5/8 in. long bugle-head Phillips drywall screws spaced 8 in. oc.

3. JOINT TREATMENT:

Certified Product: Balco Inc., MetaFlex® 2000, Models 2HWFB-20 through 2HWFB-36

The joint treatment is composed of mechanical components attached to the existing field construction. Two barriers and a cover plate are required as shown. Fasteners (Item 5) secure the joint treatment to the studs. Maximum joint width is 36 in. (nominal joint width 18 inch) and manufacturer's designation is 2HWFB-36. Design tested and illustrated at

maximum joint width. Nominal joint width illustration (installed configuration) may differ

- A. METALLIC SHEET:** Fiber insulation blanket encapsulated on exposed sides with min. 0.002 in. metallic sheets.
- B. FIBER INSULATION BLANKET:** For maximum joint width of 36 inches use min. 1-1/2 in. thick material. Lesser thickness may be used for narrower maximum joint widths.
- C. HIGH TEMPERATURE FABRIC:** Fiber insulation blanket encapsulated on unexposed sides with min. 0.030 in. high temperature fabric sheets.
- D.** Joint treatment shall be installed in accordance with Listed Manufacturer's installation instructions.
- 4. CAULK:** Apply min. 1/4 in. beads of Rectorseal Metacaulk® MC150+ to all four interior corners of joint treatment (Item 3).
- 5. FASTENERS:** Use min. #6 x 2 in. long self-tapping self-drilling sheet metal screws or wood screws for the applicable wall system, spaced at maximum 12 in. OC. used to secure joint treatment (Item 3) to the studs of the gypsum wall assembly (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.