This section includes site installed insulated balcony connections that are intended to insulate the exterior concrete balcony from the interior floor slab. Balcony loads are safely transferred to the structure. This section includes performance, proprietary and descriptive type specifications; edit to avoid conflicting requirements.

# PART 1 General

## 1.1 SECTION INCLUDES

In this article, select the components that are intended to be part of the content of this section and will not be included in other sections.

A. Provide insulated balcony system and accessories as indicated in the Contract Documents.

B. Assembly provides steel components to support simple cantilever, propped cantilever, internal corner, 3 sided or external corner concrete balconies.

## 1.2 RELATED SECTIONS

A. Section 03100 – Concrete Formwork: Preparation of concrete form work to receive work of this section.

B. Section 03300 – Cast-In-Place Concrete: Reinforcement members and their respective anchors, cast into concrete.

C. Section 05120 – Structural Steel: [Bolting] [Welding] to structural steel.

C. Section [_____-_____]: Preparation of supports to receive components of this section.

## 1.3 REFERENCES

List reference standards that are included within the text of this section. Edit the following as required for project conditions.

A. ASTM A36/A36M – Standard Specification for Carbon Structural Steel

B. A123/A123M-02 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

C. ASTM A276 – Standard Specification for Stainless Steel Bars and Shapes.

D. AWS B2.1 – Specification for Welding Procedure and Performance Qualification.

## 1.4 SYSTEM DESCRIPTION

Use this article carefully; restrict statements to describe the combined result of the components used to assemble the system. If more than one type and weight of load is anticipated, create a schedule loads, types of connections and locations.

A. Balcony Connection Assembly: System to resist loads as follows:

a. Dead load: [ ] lbs/ft2
b. Live load: [ ] lbs/ft2
c. Seismic load:

## 1.5 SUBMITTALS FOR REVIEW

The following submittals are intended for review and acceptability

A. Section 01300: Submission procedures

B. Shop Drawings: Indicate general configuration, insulation dimensions, tension bars, compression pads, shear bars, and all critical dimensions.

## 1.6 SUBMITTALS FOR INFORMATION

The following submittals are for information only; do not request these submittals if the information submitted will be assessed for acceptability.

A. Section 01300: Submission procedures.

B. Engineering calculations: Submit substantiating engineering data, stamped by state P.E. or S.E. Demonstrate structural load capacity to resist all imposed loads, including safety factor according to applicable codes.

## 1.7 QUALITY ASSURANCE

A. Manufacture by fabricator with at least five years experience in the manufacture of balcony connection components.

B. Manufacture of fabricator with experience in projects of similar scope.

C. Manufacture in accordance with an established quality assurance program.

## 1.8 PRE-INSTALLATION MEETING

This article is to identify a possible requirement for those parties directly affected by this section

A. Section 01300: Pre-installation

B. Convene [one] [_____] week before starting Work of this section.

## 1.9 COORDINATION

A. Section 01300: Pre-installation meeting.

B. Coordinate the Work with installation of balcony connections onto structural supporting components.

# PART 2 Products

## 2.1 MANUFACTURERS:

A. Halfen Anchoring Systems, A Division of Meadow Burke Products, Converse, TX 78109, Phone: 800-323-6896, Fax: 888-277-1695, Website: www.halfenusa.com, Email: halfen@meadowburke.com.

B. Substitutions: [Refer to Section 01600.] [Not permitted.]

## 2.2 MATERIALS

Edit the following paragraph to suit placement in concrete form work for casting in place using insulated balcony connections.

A. Components of insulated balcony connections.
1. Tension rods made of standard reinforcing carbon steel, connected with crimped high-grade stainless steel tube.
2. Tension rods made of standard reinforcing carbon steel, welded with high-grade stainless steel bar.
3. Shear reinforcement rods made of high-grade stainless steel.
4. Pressure pads made of high-grade stainless steel.
5. Polystyrene insulation body

B. Insulated Balcony Connector type.
1. HIT-BX Element for cantilever balcony resisting positive shear and moment
2. HIT-BF Element for precast balcony resisting positive shear and moment
3. HIT-BX-Corner Element for corner balcony
4. HIT-BQ Element for propped balcony resisting positive shear
5. HIT± BQ Element for propped balcony resisting positive or negative shear
6. HIT-BD Element for internal balcony resisting positive or negative moment and shear

C. Insulated balcony connector length.
1. Standard 1000 mm (39″) long element.
2. Make-up 200 mm (8″) long element.

D. Fire protection [options]:
1. Non fire rated
2. 90 minutes
3. 120 minutes

E. Slab thickness: Concrete slab thickness of [_____] in.

Specifier note: Minimum slab thickness of 16 mm (6 _″) required on balcony and slab is required for approved installation of HIT elements.

## 2.3 FABRICATION

A. Shop assembles items for finished product delivery to site in the variety of sizes required.

B. Mechanical Fastenings: Bolts, nuts and washers consistent with design of components.

## 2.4 FINISHES

A. Unprotected Steel rebar: Clean surfaces of rust, scale, grease and foreign matter prior to finish or galvanizing.

B. Stainless Steel: Mill produced finish, A4 (316) stainless steel.

4. Structural Carbon Steel Components: Mill finish.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Section 01600: Verification of existing conditions before starting work.

B. Verify dimensions, tolerances, and method of attachment with other work.

### 3.2 PREPARATION

A. Supply items required to be [cast into concrete] [attached to steel framing] with setting templates to appropriate sections.

### 3.3 INSTALLATION

A. Install components to manufacturer's instructions.

B. Install items plumb and level, accurately fitted, free from distortion or defects.

### 3.4 ERECTION TOLERANCES

A. Section 01400: Tolerances.

B. Maximum Variation from [Plumb] [Level]: [3] [6] [_____] mm (1/8] [1/4] [_____] inch).

### 3.5 PROTECTION

A. The installer shall protect all components from damage. Any damage to factory applied finishes shall be touched up by the installer using appropriate materials and techniques.

**END OF SECTION**