

## CB Series Rooftop Anchors:

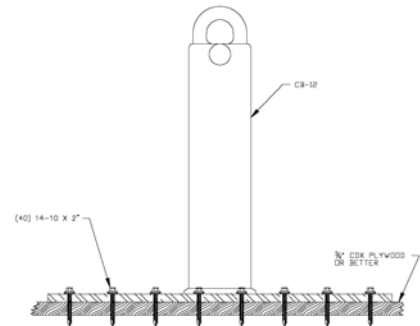
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### Attachment Methods:

- #14x10 2" self drill fasteners. Qty. 40 fasteners provided with each anchor.
- Epoxy Anchors for concrete applications (not included with anchors)

### Anchorage Requirements:

- 3/4" CDX plywood roofing
- 20ga. metal decking or thicker
- 2,000 PSI concrete or better



### System Features:

#### **CB Stanchions with baseplate:**

Designed for installation on flat or low slope roof structures.

Individual CB Series Anchors can be used for 1 person in fall arrest or fall restraint.

#### **CB Weld-On anchors without baseplate:**

Designed for installation into steel structural members.

#### **CB Plates:**

Designed for installation into structural members.

### Can Facilitate a Catenary Horizontal Line System:

#### **For Low Slope Roofs 4/12 pitch or less:**

Up to 4 workers per continuous run of cable with anchors spaced no more than 20ft. o.c.

#### **For Steep Slope Roofs 5/12 or steeper:**

1 worker in fall arrest per continuous run of cable with anchors spaced no more than 20ft. o.c.

**SECTION 11014 – FALL PREVENTION DEVICES**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. Section Includes: Roof tie-down system of fall restraint and fall arrest for worker safety.

B. Related Sections:

**EDIT FOLLOWING TO LIST ONLY SECTIONS WHICH CONTAIN WORK RELATED TO FALL RESTRAINT DEVICES**

1. Section 03300 – Cast-In-Place Concrete: Structural requirements for substrate.
2. Section 05310 – Steel Deck.
3. Section 06100 – Rough Carpentry.
4. Section 07500 – Membrane Roofing.
5. Section 07720 – Roof Accessories: Accessories installed on or in roofing (other than structural or mechanical items).

## 1.3 SYSTEM DESCRIPTION

A. General: Provide structural fall restraint and fall arrest system capable of withstanding loads and stresses within limits and under conditions specified in OSHA and other applicable safety codes. Provide fall prevention anchors permanently attached to roof structure.

B. Design Requirements: Anchors and accessories comprising system of following types:

**DELETE BELOW THOSE SYSTEM DESCRIPTIONS WHICH DO NOT APPLY**

1. Roof anchors, spaced as indicated, for safety snap connection by individual workers cable of withstanding a 5,000lb. load or safety factor of 2.
2. Continuous steel cable lifeline restrained by u-bolts at anchor points, suitable for multiple safety snap connections along cable between anchors.

C. Performance Requirements: System and components tested for resistance of following loads:

1. Fall Restraint: 4 persons simultaneously applied.
2. Fall Arrest: 1 person.
3. Design tie-back anchors to resist at least 5000 lbf applied in any direction at a height of 12 inches above top of roof deck.

## 1.4 SUBMITTALS

A. Comply with requirements of Division-1 Section, Submittal Procedures.

B. Product Data: For each type of fall prevention device specified, including manufacturer's standard fabrication details and installation instructions.

C. Shop Drawings: Show layout, profiles, and anchorage details. Include structural analysis data.

D. Maintenance Data: Written instructions for maintenance of fall prevention safety devices to be included in the operation and maintenance manual specified in Division 1.

E. Welding certificates.

F. Test Reports:

1. Indicate compliance with required performance requirements.
2. On shop- and field-welded connections. Include data on types of tests conducted.

## 1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firm having at least 10 years continuous experience in manufacturing fall safety equipment similar to systems specified and exhibiting records of successful in-service acceptability and performance.

B. OSHA Standards: Comply with Occupational Safety and Health Administration Standards for the Construction Industry 29 CFR § 1926.500 Subpart M (Fall Protection), and with applicable State Administrative Code safety standards for Fall Restraint and Fall Arrest.

- C. Welding: Qualify procedures and personnel for field-welding according to American Welding Society's AWS D1.1-00, Structural Welding Code – Steel.
  - D. Testing: Perform quality control tests for each system per manufacturer's requirements.
- 1.6 COORDINATION
- A. Coordinate installation of structural deck to meet requirements of roof anchor manufacturer:  
**EDIT FOLLOWING TO SUIT DECK CONSTRUCTION**
    - 1. Concrete Deck: Minimum concrete strength,  $F_c = 2000$  psi.
    - 2. Steel Deck: Minimum 20 gage, or provided with additional deck reinforcing per manufacturer's instructions.
    - 3. Wood Deck: Minimum  $\frac{3}{4}$  inch CDX Ext. plywood sheathing, or provided with additional wood blocking per manufacturer's instructions.
  - B. Coordinate installation of structural deck reinforcements and anchorages to receive fall prevention anchors.
  - C. Coordinate placement of roofing system insulation and flashings to ensure water-tight integrity of roof.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design: Specified components are manufactured by Guardian Fall Protection Inc., 26513 79<sup>th</sup> Ave S, Kent WA 98032, and are specified as the established standard of quality. (Local: phone 253-854-5877, fax 253-854-5980. Out-of-State: phone 800-466-6385, fax 800-670-7892)
- B. Acceptable Manufacturers: Subject to compliance with requirements, other manufacturers offering fall prevention devices comparable in configuration and performance and which are judged by the Architect to be equivalent to those specified may be considered for acceptance for the Work.
- C. Substitutions: Comply with requirements of Division-1 Section, Product Substitution Procedures.

### 2.2 MATERIALS

- A. Steel Plates, Bars: ASTM A36/A36M-01 carbon structural steel.
- B. Steel Pipe: ASTM A53/A53M-02, Schedule 80, welded and seamless.
- C. Bronze Castings: ASTM B584-00 copper alloy sand castings, Alloy UNS No. C86500 (No. 1 manganese bronze).
- D. Coating: Hot-dip galvanized after fabrication per ASTM A123/A123M-02
- E. Cable: Steel wire cable, 0.375 inch diameter.
- F. Accessories: Anchors and fasteners tested for substrate and structure assembly and approved by fall protection device manufacturer. ITW Buildex by Illinois Tool Works Inc., or Rawl by BPB Rawlplug, or approved.

### 2.3 MANUFACTURED ASSEMBLIES

- A. Standard Roof Anchors: Guardian CB Series anchors, each a welded assembly consisting of top U-bolt eyelet, pipe upright, and base plate.
  - 1. Steel Upright: 2-1/2-inch ID steel pipe, height varies to suit roof construction.
  - 2. Steel U-Bolt:  $\frac{1}{2}$  inch cold rolled steel bar, bent to 2-inch clear diameter U-shape.
  - 3. Base Plate: 3/8-inch steel plate punched with holes for attachment to roof deck.
- B. Lifeline: Continuous steel cable as tested by fall prevention device manufacturer to permit worker mobility and safety.

## 2.4 FINISH

- A. Standard Roof Anchor Finish: Hot Dipped Galvanized.
  - 1. Galvanized: Hot-dip galvanized after fabrication per ASTM A123/A123M-02.
  - 2. Mill finish.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine framing and substrate and verify conditions comply with structural requirements for system performance.
- B. Notify Architect of unsatisfactory conditions and improper coordination. Proceed with installation of roof anchors only after verifying conditions are satisfactory.

## 3.2 INSTALLATION

- A. General: Install exterior fall prevention system devices according to manufacturer's instructions and recommendations.
- B. Provide on-site inspection and supervision of installation by factory-trained representative.

## 3.3 DEMONSTRATION

- A. Instruct Owner's designated safety engineer in proper use of fall prevention safety devices.
- B. Test and adjust system devices. Replace damaged or malfunctioning items.

END OF SECTION