

This section includes site installed slotted anchor channels, that are either cast-in-place concrete or attached to structural steel members, for attaching equipment, piping, duct work, and elevator guide rails. 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. Steel channels [with stud anchors for placement in concrete form work.] [bolted attachment to structural steel framing.] [welded to structural steel framing.]

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: Channels and their respective anchors, cast into concrete.
- C. Section 05120 - Structural Steel: [Bolting] [Welding] to structural steel.

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 A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
- B. A123/A123M-02 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- C. 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 of loads, types of channels, and locations.

- A. Anchor Assembly:
 - 1. To resist downward live load of [8] [_____] kN ([1800] [_____] lb) without damage or permanent set.
 - 2. Resultant Load: [_____] kN ([_____] lb).
 - 3. Pullout Load: [_____] kN ([_____] lb).
 - 4. Shear Load: [_____] kN ([_____] lb).
 - 5. Longitudinal Load: [_____] kN ([_____] lb).

1.5 SUBMITTALS FOR REVIEW

Do not request submittals if drawings sufficiently describe the products of this section or if proprietary specifying techniques are used. The review of submittals increases the possibility of unintended variations to drawings, thereby increasing the Specifier's liability. The following submittals are intended for review and acceptability.

- A. Section 01300: Submission procedures.
- B. Shop Drawings: Indicate component profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
- C. Indicate welded connections using standard welding symbols. Indicate net weld lengths.

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. Test Reports: Submit substantiating engineering data, test results of previous tests [by independent laboratory] which purport to meet performance criteria, and other supportive data.

1.7 QUALITY ASSURANCE

This article is to address a potential regulatory requirement for structural and load considerations affecting the selection and anchorage of required anchors.

- A. Manufacture by fabricator with at least five years experience in the manufacture of anchoring components.
- B. Manufacture by 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 meeting.
- B. Convene [one] [_____] week before starting Work of this section.

1.9 COORDINATION

- A. Section 01300: Coordination with other work having a direct bearing on work of this section.
- B. Coordinate the Work with installation of concrete reinforcement and placement of pipe or conduit in the slab.

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, or www.halfenusa.com, e-mail: 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 stud type anchors.

- A. Steel Channels for Placement in Concrete:
 - 1. Halfen: Dynagrip Anchor Channels and Bolts.
 - 2. Channel Type: Halfen [29/20.] [38/23.]
 - 3. Channel Material: ASTM A283, structural steel.
 - 4. Anchors for Casting into Concrete: High-strength stainless steel, stud type welded to channel, with tulip head profile.
 - 5. Fastener - Bolt Type: T-head, [smooth] [toothed] under-face in contact with channel slot faces, washers and nuts.
 - 6. Bolt Diameter: [12.7] [16] [____] mm ([1/2] [5/8] [____] inch).
 - 7. Bolt Length: [____] mm ([____] inch).

Edit the following paragraph to suit attachment by welding or bolting to structural steel.

- B. Steel Channels for Attachment to Structural Steel:
 - 1. Halfen: Dynagrip Anchor Channels and Bolts.
 - 2. Channel Material: ASTM A283 structural steel.
 - 3. Channel Type: Halfen [29/20.] [38/23.]
 - 4. Fasteners: Steel, bolts, nuts, and washers.
 - 5. Anchor Type: Bolt with T-head, [smooth] [toothed] under-face in contact with channel slot faces.
 - 6. Bolt Diameter: [12.7] [16] [____] mm ([1/2] [5/8] [____] inch).
 - 7. Bolt Length: [____] mm ([____] inch).
- C. Bolts, Nuts, and Washers: Steel, [hot dip galvanized to ASTM A123/A123M.] [mill finish.]

2.3 FABRICATION

- A. Shop assembles items in largest practical sections, for delivery to site.
- B. Grind exposed joints flush and smooth with adjacent finish surface.
 - 1. Make exposed joints butt tight, flush, and hairline.
 - 2. Ease exposed edges to small uniform radius.
- C. Mechanical Fastenings: Bolts nuts, and washers, consistent with design of component.

2.4 FINISHES

- A. Unprotected Steel Anchors: Clean surfaces of rust, scale, grease, and foreign matter prior to finishing or galvanizing.
- B. Do not prime or galvanize surfaces in direct contact with concrete or where field welding is required.
- C. Structural Components and Anchors: Hot dip galvanize after fabrication to ASTM A123/A123M.

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.

Select one of both of the following paragraphs as required for concrete or steel attachment.

- C. Placement in concrete forms:
 - 1. Fasten anchor channels to concrete forms.
 - 2. Verify concrete has been vibrated to assure consolidation and full bond to anchors.
 - 3. Remove foam strips from interior of channels after form stripping.
 - 4. Place fasteners and make ready for use.
- D. Placement on structural steel framing:
 - 1. Provide for temporary placement to maintain true alignment until completion of erection and installation of permanent attachment.
 - 2. Weld channels to steel structural members in a manner to achieve load transfer.
 - 3. Field weld components indicated on shop drawings.
- E. Obtain approval prior to site cutting or making adjustments not scheduled.

3.4 ERECTION TOLERANCES

- A. Section 01400: Tolerances.
- B. Slotted Channel - Maximum Variation from [Plumb] [Level]: [3] [6] [____] mm ([1/8] [1/4] [____] inch).

END OF SECTION