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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The CSI Construction Specifications Practice Guide*.

This section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 2011 Update*.

SECTION 04 05 23

ADJUSTABLE CONCEALED LINTEL SYSTEM

Specifier Notes: This section covers Halfen shop-fabricated, site-installed, adjustable concealed steel lintel system for supporting masonry lintels over openings. Consult Halfen USA for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

Specifier Notes: Edit the following for the specific application.

- A. Adjustable concealed lintel system and accessories, including spin system with mid-support if needed.
- B. Support brackets to be attached to [anchor channels] [framing and mounting channels].

1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as necessary. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

- A. Section 03 15 00 – Anchor Channels for Concrete.
- B. Section 05 05 23 – Framing and Mounting Channels.

1.3 REFERENCE STANDARDS

Specifier Notes: List standards referenced in this section, complete with designations and titles. Delete standards not included in the edited section. Including a standard in this list does not require compliance with that standard.

- A. ASTM A36/A36M – Standard Specification for Carbon Structural Steel.
- B. ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- C. ASTM A153/A153M – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- D. ASTM A276 – Standard Specification for Stainless Steel Bars and Shapes.
- E. ASTM B633 – Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel.
- F. ASTM F568M – Standard Specification for Carbon and Alloy Steel Externally Threaded Metric Fasteners.
- G. ASTM F738M – Standard Specification for Stainless Steel Metric Bolts, Screws, and Studs.
- H. AWS B2.1/B2.1M – Specification for Welding Procedure and Performance Qualification.
- I. AWS D1.1/D1.1M – Structural Welding Code – Steel.

1.4 COORDINATION

- A. Coordinate the Work with installation of component assembly into masonry components without interfering with masonry reinforcement.
- B. Coordinate welding in accordance with AWS B2.1/B2.1M for [mid-span support] [HALFEN mounting and framing channels].

1.5 PREINSTALLATION MEETINGS

Specifier Notes: Edit pre-installation meetings as necessary. Delete if not required.

- A. Convene pre-installation meeting [1 week] [2 weeks] before start of work of this section.
- B. Require attendance of parties directly affecting work of this section, including Contractor, Architect, Engineer, installer, and manufacturer's representative.
- C. Review materials, preparation, installation, tolerances, protection, and coordination with other work.

1.6 SUBMITTALS

Specifier Notes: Edit submittal requirements as necessary. Delete submittals not required.

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Shop Drawings:
 - 1. Submit manufacturer's shop drawings, indicating component profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
 - 2. Indicate welded connections using standard welding symbols.
 - 3. Indicate net weld lengths.
- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Design Data: Submit manufacturer's design data, including structural calculations, signed and sealed by qualified professional engineer registered in state of the installation.
- F. Warranty Documentation: Submit manufacturer's standard warranty.

1.7 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Capable of providing field service representation during installation.
 - 2. Minimum of 5 years of experience in manufacture of adjustable concealed lintel system for masonry.
 - 3. Experience in projects of similar scope.
 - 4. Manufacture in accordance with established quality assurance program.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Store materials in clean, dry area indoors.
 - 4. Protect materials and finish during storage, handling, and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Halfen USA Inc., 8521 FM 1976, P.O. Box 547, Converse, TX 78109. Toll Free 800-423-9140. Fax 888-277-1695. www.halfenusa.com. info@halfenusa.com.

2.2 DESIGN CRITERIA

Specifier Notes: Provide information below.

- A. Concealed Lintel Assembly: Lintel shall resist loads as follows without damage or permanent set to components or masonry:
 - 1. Brick Veneer Height: _____ ft (_____ m) above lintel span.
 - 2. Additional Distributed Load: _____ lbs/ft (_____ kN/m) above lintel span.

2.3 MATERIALS

- A. Adjustable Concealed Lintel System for Masonry:

Specifier Notes: Two types of concealed lintels are available. Choose between the styles listed below for the type that best fits your application.

- 1. Concealed Lintel Spines / Horseshoe Plates / Stitching Rods [/ Mid-span Support]: [Structural carbon steel, ASTM A36, then hot-dip galvanized, ASTM A123 or A153 as applicable.] [Stainless steel, ASTM A276.]
- 2. [Anchor Channel] [Channel] / Support Brackets / Stitching Rods: [Structural carbon steel, ASTM A36, then hot-dip galvanized, ASTM A123 or A153 as applicable.] [Stainless steel, ASTM A276.]
 - a. Bolts and Nuts:

- 1) Bolt-Type Fasteners: T-head, in contact with channel slot faces, [carbon steel, ASTM F568M] [stainless steel, ASTM F738M].
- 2) Bolt Diameter: [1/2] [5/8] [3/4] [_____] inch ([12] [16] [20] [_____] mm).
- 3) Bolt Length: _____ inches (_____ mm).
- 4) Finish for Carbon Steel T-Bolts: [Hot-dip galvanized, ASTM A123] [Mill finish] [Zinc electroplating, ASTM B633].
- 5) Nuts: [Carbon steel] [Stainless steel].

2.4 FABRICATION

- A. Fabricate components to design required and provide for site-required adjustments.
- B. Weld and grind components 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. Weld components indicated on shop drawings.

2.5 FINISHES

- A. Structural Carbon Steel Components and Anchors: Hot-dip galvanized after fabrication, ASTM A123.
- B. Stainless Steel: Mill-produced finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and supports to receive adjustable concealed lintel system.
- B. Verify dimensions, tolerances, and method of attachment with other work.
- C. Notify Architect of conditions that would adversely affect installation.
- D. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

- A. Supply items required to be placed in masonry with setting templates to appropriate sections.

3.3 INSTALLATION

- A. Install adjustable concealed lintel system in accordance with manufacturer's instructions at locations indicated on the Drawings.

- B. Install items plumb and level, accurately fitted, free from distortion or defects.
- C. Adjust components to suit site conditions.
- D. Provide formwork for placement in masonry to maintain true alignment until completion of permanent attachment.
- E. Obtain approval from Architect and manufacturer before site cutting or making adjustments not scheduled.
- F. Perform field welding in accordance with AWS D1.1/D1.1M where necessary using certified welders.

3.4 TOLERANCES

Specifier Notes: Edit the following sentence.

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

3.5 PROTECTION

- A. Protect installed adjustable concealed lintel system from damage during construction.
- B. Touch-up damage to factory-applied finishes using appropriate materials and techniques.

END OF SECTION