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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 19.29

STONE SUPPORT SYSTEM

Specifier Notes: This section covers Halfen site-installed steel anchor devices that secure vertical natural stone panels in position. 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. Stone anchorage for placement of stone panels.
- B. Anchors attach to substrate to secure stone anchorage.
- C. Anchors attached to substrate for placement of stone panels.

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: Substrate providing structural support for anchors.
- B. Section 05 05 23 – Metal Fastenings: Fasteners to secure stone anchorage.
- C. Section _____ – _____: Substrate providing structural support for stone anchorage.

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 A276 – Standard Specification for Stainless Steel Bars and Shapes.

1.4 COORDINATION

- A. Coordinate the Work with installation of anchor assembly onto structural supporting components.

1.5 PREINSTALLATION MEETINGS

Specifier Notes: Edit preinstallation meetings as necessary. Delete if not required.

- A. Convene preinstallation 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: Submit manufacturer's shop drawings, indicating component profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Test Reports: Submit manufacturer's substantiating engineering data, test results of previous test by independent laboratory which meet performance criteria, and other supportive data.
- 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 experience in manufacture of anchoring components.
 - 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: 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 anchors, and locations.

- A. Anchor Assembly: Anchor plates and attachment to resist loads as follows each without damage or permanent set under load:
 - 1. Dead Load: _____ lbs (_____ kN).
 - 2. Wind Load: _____ lbs (_____ kN).

2.3 MATERIALS

Specifier Notes: Edit the following paragraphs to suit placement in concrete formwork for casting in place using stud-type anchors.

- A. Body Anchors: HALFEN “Type HRM/HRC”.
 - 1. Part Number: _____.
 - 2. Material: Stainless steel, ASTM A276, Type [316] [_____].
 - 3. Wall Brackets: Stainless steel.
 - 4. Anchors to Substrate: [Bolted] [_____] type.

Specifier Notes: Refer to manufacturer’s literature to identify the required anchor types.

- 5. Stone Anchors: Stainless steel.
 - a. [Type 1: Two-way pin] [Type 2: One-way pin].
 - b. Bolts: Adjustable flat-faced bolt, horizontal face to support stone panel.
 - c. Nuts:
 - 1) Adjustable nuts.
 - 2) Locking nuts.

- B. Body Anchors: HALFEN “Type BA”.
 - 1. Part Number: _____.
 - 2. Material: Stainless steel, ASTM A276, Type [316] [_____].
 - 3. Wall Brackets: Stainless steel.
 - 4. Anchors to Substrate: [Bolted] [_____] type.

Specifier Notes: Refer to manufacturer’s literature to identify the required anchor types.

- 5. Stone Anchors: Stainless steel.
 - a. [Type 1: Two-way pin] [Type 2: One-way pin].
 - b. Adjustable flat-faced bolt, horizontal face to support stone panel.
 - c. Adjustable nut.

- C. Body Anchors: HALFEN “Type DT”.
 - 1. Part Number: _____.
 - 2. Material: Stainless steel, ASTM A276, Type [316] [_____].
 - 3. Wall Brackets: Stainless steel.
 - 4. Anchors to Substrate: [Bolted] [_____] type.

Specifier Notes: Refer to manufacturer’s literature to identify the required anchor types.

- 5. Stone Anchors: Stainless steel.
 - a. [Type 1: Two-way pin] [Type 2: One-way pin].
 - b. Adjustable flat-faced bolt, horizontal face to support stone panel.
 - c. Adjustable clamping bolt.
 - d. Wedge plate.

- D. Body Anchors: HALFEN “Type DH”.

1. Part Number: _____.
2. Material: Stainless steel, ASTM A276, Type [316] [_____].
3. Wall Brackets: Stainless steel.
4. Anchors to Substrate: [Bolted] [_____] type.

Specifier Notes: Refer to manufacturer's literature to identify the required anchor types.

5. Stone Anchors: Stainless steel.
 - a. [Type 1: Two-way pin] [Type 2: One-way pin].
 - b. Bolts: Adjustable flat-faced bolt, horizontal face to support stone panel.
 - c. Nuts: Adjustable.

E. Support Anchors: HALFEN "UMA".

1. Part Number: _____.
2. Material: Stainless steel, ASTM A276, Type [316] [_____].

Specifier Notes: Refer to manufacturer's literature to identify the required anchor types.

3. [Type 1: Two-way pin] [Type 2: One-way-pin].

F. Restraint Anchors: HALFEN "UMA".

1. Part Number: _____.
2. Material: Stainless steel, ASTM A276, Type [316] [_____].

Specifier Notes: Refer to manufacturer's literature to identify the required anchor types.

3. [Type 1: Two-way pin] [Type 2: One-way-pin].

2.4 FABRICATION

- A. Shop assemble items for delivery to site in variety of sizes required.
- B. [Individually package each anchor set.] [Package anchor sets.]

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and supports to receive stone support 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 INSTALLATION

- A. Install stone support system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Establish setting templates in correct positions before drilling mount holes for expansion anchors.
- C. Install items plumb and level, accurately fitted, free from distortion or defects.
- D. Obtain approval from Architect and manufacturer before site cutting or making adjustments not scheduled.

3.3 TOLERANCES

Specifier Notes: Edit the following sentence.

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

3.4 PROTECTION

- A. Protect installed stone support system from damage during construction.

END OF SECTION