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MASONRY ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Related work specified elsewhere:
   1. Mockups
   2. Concrete.
   2. Mortar and masonry grout.
   3. Cement grout for reinforced masonry.
   4. Concrete unit masonry.
   5. Stone veneer.
   6. Joint sealants.

1.02 RELATED SECTIONS

A. Section 04 20 00 - Unit Masonry.

1.03 SUBMITTALS:

A. Product data: Include manufacturer's product literature and installation instructions. Indicate fastener type and length for each installation condition. Indicate corrosion protection for each item including fasteners.

B. LEED Submittals.
   1. Product data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of pre-consumer and post-consumer recycled content. Include statement indicating cost of each product with recycled content.

   2. Product data for Credit MR 5: For products having regional material content, documentation indicating location of manufacture and location of extraction, recovery or harvest of primary raw materials. Include statement indicating cost of each product with regional material content.

C. Samples: Submit individual samples of reinforcement, accessories, fasteners and anchors.

D. Shop drawings: Indicate bar bending details, bar lists and placement drawings for reinforcement. Mill tests:
   1. Submit for each heat of reinforcing steel, certifying mill tests conducted in accord with ASTM requirements.
   2. Costs for tests shall be borne by Contractor.
   3. Unidentified bundles may be rejected or tested at request of Architect. Cost of tests on unidentified bundles shall be borne by Contractor.

E. Submit three copies of each test report to Architect.

1.04 QUALITY ASSURANCE:

A. Applicable standards; standards of the following as referenced herein:
   1. American Concrete Institute (ACI).
   2. ASTM International (ASTM).
   3. Steel Structures Painting Council (SSPC).

B. Design criteria; masonry wall ties: Two-component tie design shall allow maximum clearance dimension between tie component and back-up plate of 0.05", and a maximum of 0.05" deformation in tie assembly when subjected to 100 lbs. load in either tension or compression,

while allowing both vertical and horizontal movement in plane parallel to wall.

1.05 DELIVERY, STORAGE AND HANDLING:

A. Deliver reinforcement and accessories in bundles or boxes with waterproof tags.
B. Maintain tags attached until material is incorporated into work.
C. Deliver and handle materials to prevent damage or weakening.
D. Prevent accumulation of rust or debris on reinforcement accessories during storing.
E. Store off ground and under cover.

PART 2 - PRODUCTS

2.01 MASONRY JOINT REINFORCEMENT:

A. Acceptable manufacturers; subject to compliance with specified requirements:
   1. Hohmann & Barnard, Inc.
   2. Dur-0-Wal, Inc., A Dayton-Superior Co.
   3. Masonry Reinforcing Corporation of America.

B. Masonry joint reinforcement:
   1. Material: Cold-drawn wire in accord with ASTM A82-02.
   2. Types:
      a. At single wythe masonry: Truss type; overlap at corners.
      b. At double wythe masonry where veneer coursing lines up with coursing of masonry backup: Truss type with box ties at unreinforced masonry; ladder type with box ties at reinforced masonry; box ties and cross wires spaced at 1'-4" o. c.
      c. At double wythe masonry where veneer coursing does not align with coursing of masonry backup: Truss type with adjustable box ties at unreinforced masonry; ladder type with adjustable box ties at reinforced masonry; box ties and cross wires spaced at l'-4" o. c.
   3. Longitudinal rods: Nine ga. deformed rods.
   4. Cross rods: Nine ga. rods, welded to longitudinal rods.
   5. Width of reinforcement shall be 2" less than total wall width, except that for stone masonry units, width shall be 3" less than total wall width.
   6. Provide reinforcement in minimum 10'-0" lengths with prefabricated corners and tees at intersecting walls of same design, and finish as joint reinforcement.
   7. Fabricate reinforcement for cavity wall construction with moisture drips in each cross rod.
   8. Recycled Content of Steel: Provide steel with minimum 90 percent total recycled content, including at least 60 percent post-consumer recycled content.

C. Finishes:
   1. Joint reinforcement at interior construction: Mill galvanized/ meeting ASTM A641-03 (0.10 oz. Zinc Coating/Ft').
   2. Joint reinforcement, wire ties and anchors in exterior walls and interior walls exposed to mean relative humidity exceeding 75 percent: Hot dip galvanized/complying with ASTM Al53-04, Class B-2.

2.02 MASONRY VENEER ANCHOR SYSTEM:

A. Acceptable system: Hohmann & Barnard, Inc., X-Seal Anchors and Vee Ties.
B. Characteristics:
   1. Anchors: Minimum 14 ga. steel, flat plate punched to receive two fasteners, with V-shaped projecting bar and pronged back legs top and bottom. Pronged legs shall be length equal to sheathing thickness.
   2. Ties: V-shaped 3/16" diameter steel wire with cavity drip, sized to extend within l" of exposed veneer face.
   3. Finish: Hot dip galvanized in accord with ASTM Al53-04, Class B-2.
   4. Butyl tape strip to be applied at all anchor locations – Refer to 072700.2.2.B.

C. Fasteners: Self-tapping Butyl tape steel screws, corrosion-resistant coated; passing Kesternich test chamber, DIN 50018 standard with no indications of red rust or corrosion after minimum 30 wet and dry acidic atmosphere cycles and minimum 1000 hours salt spray testing in accord with ASTM B117-03.

2.03 MASONRY PLUMBING CHASE WALL TIES:

A. Type: "Z" type with 3" long 90 degree bends each end. Fabricate lengths 2" less than width of chase.
B. Material: Minimum 3/16" diameter steel wire in accord with ASTM A82-02.
C. Finish: Hot dip galvanized in accord with ASTM A153-04, Class B-2.

2.04 "Z" ANCHORS FOR CORNER CONDITIONS:

A. Characteristics:
   1. Type: Strap with 2" long 90 degree bends at each end to form a "Z" shape.
   2. Material: Steel.
   3. Size: Minimum l/4" by 1-1/2" by 2'-4".
   4. Finish: Hot dip galvanized in accord with ASTM A1 53-04, Class B-2.

2.05 BAR REINFORCEMENT:

A. Material: Meeting ASTM A615-04b, ACI 530 and ACI 530.1.

B. Bars: Deformed Type, Grade 60.

C. Ties and stirrups: Grade 60.

2.06 VERTICAL REINFORCING BAR POSITIONERS:

A. Acceptable products; subject to compliance with specified requirements:
   1. Heckmann Building Products, Inc., 377.
   2. Dur-0-Wal, Inc., A Dayton-Superior Co., D/A 812.
   3. Wire-Bond, corelock rebar positioners.

B. Characteristics:
   1. Type: Spider shaped positioner allowing rebar to be placed at center of wall or on either side of cavity.
   2. Material: Minimum 9 gauge steel wire.
   3. Finish: Hot dip galvanized in accord with ASTM A153-04, Class B-2.

2.07 PRESSURE RELIEVING PADS:

A. Acceptable products; subject to compliance with specified requirements:
   1. Hohmann & Barnard, Inc., #NS.
   2. Our-0-Wal, Inc., A Dayton-Superior Co., Rapid Soft- Joint, 0/A 2010.
   3. Wire-Bond, Horizontal/Vertical Expansion Joint.

B. Type: Self-adhering, closed cell neoprene conforming to ASTM 01056-00, Class RE41, for compression up to 35%.

C. Sizes:
   1. Horizontal joints: 2-3/4" wide, 1/4" thickness.
   2. Vertical joints: 3" wide; thickness shall match joint width.

2.08 RUBBER CONTROL JOINTS:

A. Acceptable products; subject to compliance with specified requirements:
   1. Hohmann & Barnard, Inc., RS Series, Rubber Control Joint.
   2. Dur-0-Wal, Inc., A Dayton-Superior Co., Rapid Control Joint.
   3. Wire-Bond, Control Joint 2900 Series.

B. Type: Extruded rubber meeting ASTM 02000-05, Type 2AA, 805, minimum 80 durometer hardness.

2.09 MORTAR NET:

A. Acceptable products; subject to compliance with specified requirements:
   1. CavClear Masonry Mat
   2. Mortar Net USA, Ltd., Mortar Net.
   3. Advanced Building Products, Inc., Mortar Maze.

B. Characteristics:
   1. Type: Mesh designed to catch and hold mortar droppings in an irregular pattern. Mesh shall not trap moisture or water. Mesh shall not support mold or fungus.
   2. Material: High density polyethylene or nylon strands woven into a 90% open mesh.
   3. Thickness: match cavity thickness.

2.10 WIRE MESH HARDWARE CLOTH:

A. Characteristics:
   1. Material: 1/2" by 16 ga. steel mesh:
   2. Size: 2" less than wall width by 1'-4" long minimum.
   3. Finish: Hot dip galvanized in accord with ASTM Al53-04, Class B-2.

2.11 COLD GALVANIZING COMPOUND:

A. Acceptable product: Brite Products, Brite Zinc.

B. Type: Pre-mixed, organic zinc liquid containing 90% zinc in dried film.

2.12 **THROUGH-WALL FLASHING SYSTEM**

A. Through-wall Flashing.
   1. Description:
      a. Copper: ASTM B370; temper H00 (cold-rolled) except where temper is required for forming.
         1) 16 oz. per sq. ft. (0.0216 IN thick) except as otherwise indicated.
      b. Widths as required.
   2. Factory precut wherever possible.
   3. Base Product:
      a. Copper sheet metal by Hohmann & Barnard.
   4. End dams:
      a. Provide at ends of runs and at all transitions and terminations.
      b. Base Product: Copper; 16 oz. per sq. ft.

B. Termination Bar:
   1. Use to secure top edge of flashing to back-up wall.
      a. Anchor at 16 IN. on center.
   2. Material: Stainless steel.
      a. See Execution Section for dissimilar metals separation.
   3. Surface type.
   4. Base Product: “T1-FTS” by Hohmann & Barnard.

C. Flashing Adhesive:
   1. As recommended by manufacturer for bedding, sealing laps, and sealing to vertical surfaces.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

C. Clean surfaces thoroughly prior to installation.

D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION:

A. General:
   1. Install reinforcement and accessories in accord with manufacturer's product data. Provide sizes and methods of attachment as required by installation conditions. In addition to installation spacings specified, provide specified reinforcement and accessories at perimeter of windows, doors and other openings.
   2. Where galvanized components must be field-welded to supports, remove galvanizing prior to welding.
   3. Limit misalignment of bed joints in one wythe to bed joint in second wythe of multi-wythe construction to 1-1/4".

B. Install masonry joint reinforcement in masonry walls at 1 '-4" o. c. vertically. Lap side rods 6" minimum at splices; greater as required by product data.
   1. Stop reinforcement 1" back from expansion and control joints and openings in masonry walls.
   2. Install reinforcement in first and second bed joint above and under openings, with non- continuous reinforcement extending 2'-0" beyond jamb, each side.
   3. Install ladder type joint reinforcement with cross wires aligned with head joints of concrete masonry units.
   4. At splices, cross rods may be removed to facilitate placement.

C. Install dovetail anchor slots vertically in cast-in-place concrete surfaces adjacent to masonry walls. Install slots at 1'-6" o.c. horizontally. Install dovetail anchors at 1'-4" o. c., maximum, vertically.

D. Attach masonry veneer anchors through sheathing and insulation to metal studs using specified fasteners.
   1. Install strip of Self-Adhering flashing membrane Anchor locations to seal penetrations.
   2. Install two fasteners per anchor.
   3. Space anchors at 1'-4" o. c. each direction.
   4. Install one tie per anchor.

E. Install "Z" type plumbing chase wall ties with 90 degree bends embedded in each Wythe of masonry chase walls in full bed of mortar. Space ties of 2'- 0" o. c., vertically and 4'-0" o. c., horizontally.

F. Weld column anchors 2'-8" on center on flange of steel columns. Weld beam anchors 4'-0" on center at beams running adjacent to masonry. Attach ties and set in mortar bed.

G. Install vertical reinforcing bar positioners in reinforced masonry walls as specified in Concrete Unit Masonry section.

H. Bar reinforcement:
   1. Shop fabricate reinforcement to shape and dimensions indicated on approved shop drawings. Bent bars shall be bent cold. Fabricate in accord with ACI 315 and ACI 318.

   2. Reinforcement shall, at the time of placing, be free from rust scale, oil and other coatings reducing bond. Use no bar with kinks or bends not shown on shop drawings.
   3. Install reinforcement as specified in Concrete Unit Masonry section.

I. Install "Z" anchors in connection of intersecting walls at maximum 4'-0" o. c., vertically.

J. Install vertical and horizontal pressure relieving pads in masonry construction at locations indicated.
   5. Joint sizes shall match masonry joint widths.
   6. Keep joints clean of masonry droppings.
   7. Install pressure relieving pads with lengths butted.
   8. Install horizontal pressure relieving pads under shelf angles.

K. Caulk joints using sealant as specified in Joint Sealants section. Joints shall be watertight and free from voids after caulking.

L. Install rubber control joints as specified in Concrete Unit Masonry section. Location of control joints in masonry construction shall be as indicated on the drawings.

M. Install mortar net in cavity walls in collar joint or cavity resting on flashing. Position with profiled side up.

N. Install wire mesh hardware cloth at concrete masonry units to prevent migration of grout from masonry units, where units are indicated to be grouted.

O. Repair of galvanized surfaces: After installation, clean surfaces from which galvanizing was removed during installation in accord with SSPC-SP 3, "Power Tool Cleaning". Coat surfaces with cold galvanizing compound, 3.0 mils minimum dry film thickness.

3.04 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturer’s recommendations.

B. Protect installed products until completion of project.

END OF SECTION