SECTION 055800

PERIMETER HEATING AND COOLING ENCLOSURES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

A. Custom perimeter heating and cooling enclosures required for this work are indicated on the drawings.

1.3 RELATED SECTIONS

A. Gypsum drywall - Section 092116.

B. Heating elements - Division 23.

C. Air outlets/inlets – Division 23.

D. Telephone and electrical outlet boxes - Division 26.

1.4 QUALITY ASSURANCE

A. Verify dimensions by field measurement before fabrication, where possible, without delaying the project. Design units to provide for adjustment and fitting of components during field installation.

B. Preassemble units at the shop to the greatest extent possible to minimize mechanical joints, splicing and field assembly of units.

1.5 SUBMITTALS

A. Shop drawings

1. Before any of the materials of this Section are delivered to the job site, submit complete Shop Drawings to the Architect.

2. Shop Drawings shall include plans, elevations and detail sections. Show jointing, anchorage and accessory items, and specify finishes.

1.6 FULL SIZE MOCK-UPS

A. Provide a full scale mock-up of each type of enclosure, installed at a building location as selected by the Architect for approval before manufacture of the enclosures has begun. Mock-ups shall include typical end and corner conditions. Each mock-up shall be a min. length of 2 typical sections.

B. Rework mock-ups until approved by Architect. Installed work shall match approved mock-ups.

C. Approved mock-ups may remain as part of the finished building construction.

D. Provide an additional mock-up at a remote location associated with the building envelope testing.

1.7 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this Section before, during and after installation and to protect the installed work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Provide materials which have been selected for their surface flatness, smoothness and freedom from surface blemishes where exposed to view in the finished unit. Exposed to view surfaces which exhibit pitting, seam marks, roller marks, "oil canning", stains, discolorations or other imperfections on the finished units are not acceptable.

B. Cold Rolled Sheet Steel: ASTM A1008 commercial steel sheet.

C. Fasteners: Provide concealed fasteners, of the same basic metal and finish as the fastened metal. Use Phillips flathead machine screws where exposed, unless otherwise indicated.

D. Anchors: Use non-ferrous metal or hot-dip galvanized anchorages on exterior walls. Provide toothed steel or lead shield expansion bolt devices for drilled-in-place anchors.

E. Steel Primer Paint: Manufacturer's standard baked-on rust resistant primer.

F. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).

2.2 FABRICATION

A. Fabricate units from the gages specified, made from cold-rolled steel sheets and provide a baked-on primer finish.

B. Fabricate units to support a min. loading of 200 lbs. per sq. ft. or 150 lbs. per lin. ft (whichever is greater) without permanent deflection. Provide stiffeners or laminated backing as required for strength and rigidity. Include brackets, plates and straps in the assemblies for support and anchorage to other work.

C. Form enclosures to the profiles, sizes and shapes shown. Form sheet metal sections to provide flush meeting edges without metal-to-metal laps at joints or exposed metal

edges, unless otherwise shown. Joints shall be hairline butt joints as few as possible in number and occurring on the building module.

D. Use equivalent metal gages or thicknesses to the following minimum for cold-rolled steel.

1. Framing: 12 ga.

2. Sills and stools: 16 ga.

3. Front panels: 16 ga.

4. Concealed panels and trim: 20 ga.

5. Bases: 12 ga.

E. Fabricate removable panels in enclosures to a fitting tolerance of not less than 1/32" and not more than 1/16" at each edge.

F. Provide front panels for access to enclosed heating elements. Locate fixed sections to occur only at window mullions and at ends of runs, unless otherwise shown.

G. For miters and copes to be tight fitting, square and in true alignment. Close exposed corners and seams by forming procedures or by welding, brazing or soldering and grinding smooth and flush on exposed surfaces. Comply with the recommendations of AWS and NAAMM for welding, brazing and soldering.

H. Where noted, shop-perforate enclosure following perforation pattern shown on the drawings. Roll, press, and grind perforated metal to flatten and to remove burrs and deformations.

I. Provide sound-deadening for concealed faces of metal panels over 6" wide, consisting of a heavy bituminous coating applied at the min. rate of 20 sq. ft. per gal. Apply sound-deadening coating after completion of shop finishing.

J. Coordinate and provide clip for fin tube hanger at each enclosure mullion.

K. Provide "punch-outs" at enclosure mullion faces shown on drawings for telephone and electrical outlets.

L. Provide and install angle back-piece to toe-space as shown on drawing.

2.3 SHOP FINISHING

A. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, “Solvent Cleaning,” to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, “White Metal Blast Cleaning,” or SSPC-SP-8, “Pickling”.

B. Pretreatment: Immediately after cleaning, apply a conversion coating of type suited to organic coating applied over it.

C. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils. Custom color as selected by the Architect.

PART 3 EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions where perimeter heating/cooling enclosures are to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

3.2 INSTALLATION, GENERAL

A. Set unit enclosures in location and alignment, plumb and level with adjacent work.

B. Anchor securely in the manner shown, using concealed anchorages wherever possible.

C. Form tight joints with exposed connections accurately fit together.

D. Repair enclosures damaged by cutting, welding, soldering and grinding operations required for fitting and jointing.

E. Restore prime coats of paint so that there is no evidence of corrective work.

END OF SECTION