

SECTION 05735

ORNAMENTAL SHEET METAL ENCLOSURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Ornamental sheet metal enclosures made of stainless steel, aluminum, bronze, and steel, of types described below.

1.2 RELATED SECTIONS

- A. Section 05120 - Structural Steel.
- B. Section 05400 - Cold-Formed Metal Framing.
- C. Section 05500 - Metal Fabrications.
- D. Section 07482 - Architectural Metal Wall Cladding.
- E. Section 07815 - Sprayed-On Fireproofing.
- F. Section 07900 - Joint Sealers.
- G. Section 09260 - Gypsum Board Assemblies.
- H. Section 09300 - Tile.
- I. Section 09520 - Metal Panel Ceilings.
- J. Section 09546 - Linear Metal Ceiling.
- K. Section 09900 - Paints and Coatings.

1.3 REFERENCES

- A. AA DAF-45 - Designation System for Aluminum Finishes; Aluminum Association (AA).
- B. AAMA 605.2 - Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
- C. AAMA 606.1 - Voluntary Guide Specification and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum.

- D. AAMA 607.1 - Voluntary Guide Specification and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
- E. AAMA 608.1 - Voluntary Guide Specification and Inspection Methods for Electrolytically-Deposited Color Anodic Finishes for Architectural Aluminum.
- F. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- G. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
- H. ASTM D 1730 - Standard Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting.
- I. DIN 50939 - Protection Against Corrosion; Chromating of Aluminum, Directives, Symbols, and Methods of Test; Deutsches Institut fur Normung.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's descriptive literature, specifications, installation instructions, and recommendations, for each unit, component, and finish.
- C. Shop Drawings: Indicate the following:
 - 1. Types, locations, sizes, and profiles; include material and finish indications.
 - 2. Field measurements of construction over which enclosures will be installed, with notation of dimensions which vary significantly from the Contract Documents.
 - 3. Details of corners, joints, fastening, anchorages, and interface with adjacent construction.
 - 4. Scale: 1/4 inch to 1 ft (1:50).
- D. Selection Samples: Two sets, representing finish manufacturer's full range of available materials, finishes, and colors.
- E. Verification Samples:
 - 1. For each metal panel material, color, and finish, submit two samples, minimum size 24 inches (609 mm) square, representing actual material and finish.

2. Two samples of each type of accessory specified.
- F. Samples of Fabricated Materials: Submit full-scale samples of panel edge joints, expansion joints, and support members.
- G. Manufacturer's qualifications.
- H. Installer's qualifications.
- I. Maintenance data for panels and finishes, including precautions in use to prevent damage.

1.5 QUALITY ASSURANCE

- A. Designer's Qualifications: Structural engineer licensed to practice in the State in which the project is located.
- B. Manufacturer Qualifications: Minimum ten years documented experience producing enclosures similar to those specified in this section.
 1. Maintaining an in-house quality assurance program that documents panel dimensions, corners, and alignment.
 2. Having sufficient capacity to produce required units within project time requirements.
- C. Installer Qualifications: Minimum five years documented experience installing enclosures similar to those specified in this section and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store components in manner to prevent bending, warping, twisting, and surface damage.
- B. Deliver and store components of this section in manufacturer's unopened packaging until installation.
- C. Store components off ground/floor on skids; protect against warpage, scratches, damage from moisture, exposure to direct sunlight, and other surface contamination until installation.

1.7 WARRANTY

- A. Manufacturer's Warranty: Ornamental metal enclosure manufacturer's five-year warranty against defects in

product materials and fabrication, including cost of re-installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Metalwerks Division, Metal Sales and Service, Inc., P.O. Box 637, Kennett Square, PA 19348; ASD. Tel. (800) 321-7816.
- B. Requests for substitution will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.

2.2 ENCLOSURES

- A. Provide custom ornamental sheet metal enclosures for:
 - 1. Column and beam covers.
 - 2. Escalator and elevator cladding.
 - 3. Bulkhead, soffit, and balcony cladding.
 - 4. Interior window sills and stools.
 - 5. Other assemblies as indicated on drawings.
- B. Enclosures: Shop-fabricated and assembled from metal panels, complete with all connections, supports, and anchors, with dimensions based on actual field measurements and coordinated with adjacent work.
 - 1. Exposed components: Fabricated from materials selected for surface flatness, smoothness, and freedom from surface blemishes.
 - 2. Edges: Straight, with bending radii not less than minimum recommended by material supplier.
 - 3. Reveals: Sizes as indicated; attached to panels at fabrication facility.
 - 4. Ceiling closures: Attached to top of panels at fabrication facility; allow for movement relative to structure.
 - 5. Panel supports: Concealed 14 gage (1.9 mm) galvanized "Interframe" supports, providing plumb panel mounting and flush panel joints.
 - 6. Panel fasteners: Concealed keyhole type, "Metal Lok", or as required.
 - 7. Other fasteners and anchors: Concealed; exposed fasteners not permitted except as indicated on approved shop drawings.

8. Fabricate components as indicated on approved shop drawings.
- C. Finish all exposed surfaces of the same metal in the same manner as panel finish.
- D. Apply protective vinyl masking to exposed surfaces.

2.3 MATERIALS

- A. Metal Panels: Stainless steel sheet.
 1. Sheet thickness: 18 gage (1.3 mm).
 2. Sheet thickness: 16 gage (1.5 mm).
 3. Sheet thickness: 14 gage (1.9 mm).
 4. Sheet thickness: 12 gage (2.7 mm).
 5. Finish: Number 4 brushed finish.
 6. Finish: Number 6 finish.
 7. Finish: Number 8 mirror finish.
 8. Finish: Number 2B mechanical finish.
- B. Metal Panels: Aluminum sheet, of alloy and temper recommended by manufacturer for use intended and suitable for finish indicated; strength and durability not less than that for ASTM B 209/ASTM B 209M, alloy 5005, H15 temper.
 1. Sheet thickness: Minimum 0.063 inch (1.6 mm).
 2. Sheet thickness: Minimum 0.080 inch (2.0 mm).
 3. Sheet thickness: Minimum 0.090 inch (2.3 mm).
 4. Sheet thickness: Minimum 0.125 inch (3.2 mm).
 5. Sheet thickness: Minimum 0.190 inch (4.8 mm).
 6. Sheet thickness: Minimum 0.250 inch (6.3 mm).
 7. Finish: Fluoropolymer coating.
 8. Finish: Polyester powder coating.
 9. Finish: Clear anodic finish, AA-M12C22A31, nonspecular as fabricated mechanical finish, chemically etched medium matte, with AAMA 607.1 Class II clear coating 0.010 mm or thicker.
 10. Finish: Clear anodic finish, AA-M12C22A41, nonspecular as fabricated mechanical finish, chemically etched medium matte, with AAMA 607.1 Class I clear coating 0.018 mm or thicker.
 11. Finish: Color anodic finish, AA-M12C22A32, nonspecular as fabricated mechanical finish, chemically etched, medium matte, with AAMA 606.1 or 608.1 Class II integrally colored or electrolytically deposited color coating 0.010 mm or thicker.
 12. Finish: Color anodic finish, AA-M12C22A34, nonspecular as fabricated mechanical finish,

chemically etched, medium matte, with AAMA 606.1 or 608.1 Class I integrally colored or electrolytically deposited color coating 0.018 mm or thicker.

13. Color: Light bronze.
14. Color: Medium bronze.
15. Color: Dark bronze.
16. Color: Black.
17. Color: _____.
18. Color: Selected from full range of manufacturer's standard colors.
19. Color: Match Architect's sample.

C. Metal Panels: Bronze/Muntz metal.

1. Sheet thickness: 0.050 inch (1.3 mm).
2. Sheet thickness: 0.060 inch (1.5 mm).
3. Sheet thickness: 0.080 inch (2.0 mm).
4. Mechanical sheet finish: Number 4 brushed finish.
5. Mechanical sheet finish: Number 6 finish.
6. Mechanical sheet finish: Number 8 mirror finish.
7. Finish: Statuary bronze.
8. Top coat: Clear lacquer coating.

D. Metal Panels: Steel sheet.

1. Sheet thickness: 18 gage (1.2 mm).
2. Sheet thickness: 16 gage (1.5 mm).
3. Sheet thickness: 12 gage (2.7 mm).
4. Sheet thickness: 11 gage (3.0 mm).
5. Finish: Fluoropolymer coating.
6. Finish: Polyester powder coating.

E. Fluoropolymer Coating Finish: Polyvinylidene fluoride three-coat coating system, applied by coater certified by coating manufacturer, conforming to AAMA 605.2, and as follows:

1. Pretreatment: Chemical etch with cleaner specified by coating manufacturer.
2. Primer: Acid-resistant primer coating specified by coating manufacturer; dry film thickness range 0.2 to 0.3 mils (0.005 to 0.007 mm).
3. Color Coat: Containing minimum 70 percent polyvinylidene resin by weight; Kynar 500(R) or Hylar 5000(R); dry film thickness of 0.8 to 1.2 mils (0.02 to 0.03 mm).
4. Top Coat: Clear top coating containing minimum 70 percent polyvinylidene resin by weight; minimum dry film thickness of 0.8 mils (0.02 mm).
5. Color: _____.

6. Color: Selected from full range of coating manufacturer's standard colors.
 7. Color: Match Architect's sample.
- F. Polyester Powder Coating Finish: Manufacturer's standard electrostatically- or spray-applied polyester powder coating system as follows:
1. Multi-stage pretreatment process in accordance with ASTM D 1730, Type B, method 5 or 7, and DIN 50939.
 2. Finish coat: One coat commercial-grade polyester powder coating.
 3. Second finish coat: Additional coat commercial-grade polyester powder coating.
 4. Total coating thickness: 2.5 to 3.5 mils (0.06 to 0.08 mm) dry film thickness on panel face; 3.5 to 5 mils (0.08 to 0.12 mm) dry film thickness on panel edges and corners.
 5. Color: _____.
 6. Color: Selected from full range of manufacturer's standard colors.
 7. Color: Match Architect's sample.
- G. Panel Accessories: Same material, sheet thickness, and finish as adjacent panels, unless otherwise indicated; including reveals, ceiling closures, and joint sealer recesses.
- H. Accessory Materials: Provide concealed gaskets, fillers, insulation, and other materials as required to complete the installation.
- I. Joint Sealants: As specified in Section 07900.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Review the shop drawings and verify field conditions:
1. Verify that dimensions of locations to receive ornamental sheet metal enclosures are in accordance with shop drawings.
 2. Verify that concrete inserts, anchor bolts, and integral anchors have been installed in concrete or secured to structural steel.
 3. Surfaces are ready to receive enclosures.

3.2 INSTALLATION

- A. Install components in accordance with approved shop drawings.
- B. Panels: Install plumb, level, and in alignment with adjacent work, to specified tolerances, with hairline joints between adjacent components.
- C. Protect metal surfaces from corrosion and electrolytic action by applying two coats bituminous paint on surfaces which will be in contact with concrete, masonry, or dissimilar metals.
- D. Secure to substrates using anchors specified in shop drawings.
- E. Install accessories as construction activities progress.
- F. Tool sealants to concave profile, cleaning excess sealant materials from panel surfaces in the process.
- G. Installation Tolerances:
 - 1. Maximum variation in vertical joint alignment: Plus or minus 1/16 inch (1.5 mm).
 - 2. Maximum variation in horizontal joint alignment: Plus or minus 1/16 inch (1.5 mm).
 - 3. Maximum variation from plumb: 1/8 inch in 12 feet (3.5 mm in 4 m).

3.3 CLEANING

- A. After removing factory-applied masking, clean surfaces using materials and methods specified in manufacturer's instructions.

3.4 PROTECTION AND REPAIR

- A. Protect installed components from damage to appearance and performance by subsequent construction activities; do not remove factory-applied masking from components until time of Substantial Completion.
- B. Repair damaged components and finishes in accordance with manufacturer's recommendations; replace components which cannot be repaired to Architect's acceptance.

END OF SECTION