

CSI Format for Metal Wall Panel System Specification

SECTION 07410

METAL WALL PANEL SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior Metal Plate Wall Panels
- B. Substructure and Framing
- C. Structural Attachments
- D. Accessories
- E. Factory Applied Finishes
- F. System Engineering

1.2 RELATED SECTIONS

- A. Section 05120 - "Structural Steel" for supporting substrate
- B. Section 05 4000 – Cold-Formed Metal Framing: Wall panel substrates support framing.
- C. Section 06 1000 – Rough Carpentry: Plywood substrate wall sheathing.
- D. Section 07 2500 – Weather Barriers: Air and moisture barrier required as part of metal wall panel assembly.
- E. Section 07 6200 – Sheet Metal Flashing and Trim: Field formed flashings and other sheet metal work.
- F. Section 07 9005 – Joint Sealers: Perimeter sealant.

1.3 REFERENCES

- A. AAMA - American Architectural Manufacturers Association (www.aamanet.org)
- B. AAMA CW-RS-1 – The Rain Screen Principle and Pressure Equalized Wall Design
- C. AAMA 501.1 – Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
- D. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems
- E. AAMA 508 – Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems
- F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2011 (Testing based on 2005 Edition)
- G. AAMA TIR-A9-2000: Metal Curtain Wall Fasteners
- H. ASTM International (www.astm.org)
- I. ASTM A-36: Standard for Carbon Structural Steel
- J. ASTM A-500: Standard for Carbon Steel Structural Square and Rectangular Steel Tubes
- K. ASTM B-209: Standard for Aluminum Sheet and Plate
- L. ASTM C-754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
- M. ASTM E-330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2010
- N. ISO 9001: 2008: Quality Management System Requirements

1.4 DESIGN REQUIREMENTS

- A. Delegated Design: Design metal panel wall system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Metal items, including anchors and connections, shall withstand the effects of gravity loads and the following loads and stresses without exceeding the allowable design working stress of materials involved and without exhibiting permanent deformation in any components:

1. Wind Loads on Exterior Items: As indicated on Drawings, but not less than +30 psf/-30 psf.
 2. Seismic Performance: Assemblies, including anchors and connections, shall withstand the effects of earthquake motions determined according to ASCE/SEI 7. Component Importance Factor is 1.0.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
1. Temperature Change: 120 deg F, ambient; 180 deg F (100 deg C), material surfaces.
- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.5 SUBMITTALS

- A. Product Data: Provide a detail list of Material data sheets that detail the components, fasteners, finishes, and methods of fabrication. Also provide samples of material finishes.
- B. Shop Drawings: Submit shop drawings that show layout including plan views, elevations, sections and details.
- a. Shop Drawings must be accompanied by calculations completed by a Professional Engineer registered in the state of the project location.
- C. Samples: Submit three (3) Samples of:
- a. Material Finishes
 - b. 24"x24" Sample Panels
 - c. 12" Section of Metal Panel Framing
- D. Quality Assurance: Provide copy of manufacturer's Quality Management System equal to ISO 9001: 2008.
- a. Submittal to be submitted with shop drawings

1.6 DELIVERY, STORAGE, & HANDLING

- A. Delivery: materials will be delivered to the specified location and signed off for quality delivery by the appropriate party accepting liability.
- B. Storage: Materials should be stored in an approved area by the manufacturer. This area should be free from construction and dry.

PART 2 PRODUCTS

Bunting Architectural Metals: Aria Composite Panel System

20 River Road, Verona, PA 15147 Main: 412-820-2200 Fax: 412-820-4404 www.buntingarchitecturalmetals.com

2.1 MANUFACTURER

- A. Company: Bunting Architectural Metals
 - a. 20 River Road Verona PA 15147
 - b. Tel.412.820.2200
 - c. Web: www.buntingarchitecturalmetals.com or sales@buntingarchitecturalmetals.com

- B. Basis of Design: The drawing and specifications have been designed to conform to Bunting Architectural Metals Aria Composite Panel System. Substitutions must be made 2 weeks in advance of the project bid date and meet section 01630 of the specification for substitutions for consideration. Without prior approval to the project bid date and an addendum issued to all bidders a substitution cannot be used.

- C. Substitutions: To be considered for substitution prior to bid the product must comply with 01630; in conjunction with that the following must be submitted: Calculations that certify the product does meet the performance requirements in ASCE/SEI 7, a 3 year experience record with an equal system, and a full size sample for review.

2.2 MATERIALS

- A. Material quality: Provide materials free from surface blemishes where exposed to view in the finished installation.
- B. Aluminum Composite Material (ACM): Fire Rated Core with .020" Aluminum Skin.
Acceptable composite sheet metal materials:
 - 1. Apolic fr - <http://www.alpolic-americas.com/>
 - 2. Renyobond - https://www.alcoa.com/aap/north_america/en/product.asp?cat_id=915&prod_id=1534
 - 3. Larson - <http://alucoil.com/northamerica/>

- C. Aluminum Coping: .125" Aluminum Plate, 5051
- D. Aluminum Flashing: .040" Aluminum Sheet, 3003
- E. Panel Framing: .125" Aluminum Angle, 6061
- F. Insulation: Roxul Mineral Wool
- G. Fasteners: All fasteners to be ANSI B18.6.4-12-14 (.75 or 1.25)

2.3 FINISHES

- A. ALUMINUM FINISHES
 - a. A. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - i. Color and Gloss: As selected by Architect from manufacturer's full range.

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- ii. Paint Applicator must be a PPG Factory Applied High Performance Architectural Metal Coatings Certified Applicator and Quality Audited by PPG. For PPG Certified Applicators go to:
<http://www.ppgideascales.com/Metal-Coatings/Where-to-Buy/Approved-Extrusion.aspx>

2.3 FABRICATION

- A. General: Fabricate metal panel system from components of sizes not less than those indicated and as recommend by manufacturer. Furnish all bolts, hardware, and accessories required for a complete installation.
- B. Fabricate in accordance with approved shop drawings.
- C. Fabricate system complete to satisfy structural and performance requirements.
- D. Perform all welds by certified welder with valid AWS certification.
- E. Cut, Drill, Punch, Weld, and Form metals cleanly and accurately. Remove burrs and ease edges of radius to the material thickness of the given material, unless indicated otherwise. Remove sharp or rough edges on exposed surfaces.

PART 3 EXECUTIONS

3.1 EXAMINATION

- A. Prior to the erection of the system installation team will verify that the site is built to the contract documents. If it is not built to the contract documents within the acceptable tolerances prime contractor shall adjust the site to accommodate the installation of metal panel system per the contract documents.

3.2 INSTALLATION

- A. Installation to be performed in accordance with Manufacturer's installation instructions and at the locations per the location plans provided by the manufacturer.

3.3 PROTECTION

- A. General Contractor to provide protection if construction is not complete.

END OF SECTION