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## MG D-Set

### Section 07 42 13

#### **PART 1 – GENERAL**

##### **1.1 RELATED DOCUMENTS:**

- A. The drawings and provisions of the General Conditions, Supplementary Conditions and the sections included under Division 1 Specification Sections, apply to this section.

##### **1.2 SUMMARY:**

- A. This section includes MG D-SET Panels used as the exterior or interior cladding.

##### **1.3 PERFORMANCE REQUIREMENTS:**

- A. Structural performance: provide exterior/interior wall cladding assemblies capable of withstanding the effects of load and stresses from dead loads, wind loads, snow loads and normal thermal movement without evidence of permanent defects of assemblies or components.
  - a. Dead load: As required by applicable building code.
  - b. Live Load: As required by applicable building code.
  - c. Wind Load: Uniform pressure (velocity pressure) of (Insert Design Criteria) lb/sq ft. (Insert Design Criteria), acting inward or outward.
  - d. Thermal Movements: Provide assemblies that allow for thermal movements resulting from the following maximum changes (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components and other detrimental effects:
    - i. Temperature Change (range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- B. Sealed joints shall allow free and silent movement of panels during expansion and contraction while preventing uncontrolled penetration of moisture.
- C. Manufacturing, installation, and sealing shall prevent deformation of exposed surfaces.
- D. Design panel system to accommodate substructure tolerance of +0 to -1/8 inch.
- E. Panel support system shall allow for free-floating panel installation.
- F. Not Permitted: Vibration harmonics; wind whistles; noises caused by thermal movement; thermal movement transmitted to other building elements; loosening, weakening or fracturing of attachments or components of system.
- G. Preformed metal panel system to withstand code imposed design loads. Maximum allowable deflection of span: L/180.

##### **1.4 SUBMITTALS:**

- A. Product Data: Manufacturer's product literature for the panel specified.
- B. Shop Drawings: For exterior/interior wall panel assemblies and accessories. Include plans; elevations; sections and details.
- C. Structural Calculations: Submit a comprehensive analysis of design loads, including dead loads, live loads, wind loads and thermal movement. All engineering to be stamped by a



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licensed engineer.

- D. Quality Assurance Submittals: Submit the following:
  - a. Certificates: Product certificates signed by manufacturer certifying materials comply with the specified performance characteristics and criteria, and physical requirements.
  - b. Full Size panel showing panel attachment and finished size.
- E. Samples for initial selections: Manufacturer's color charts showing the full range of colors available for units with factory-applied color finishes.
- F. Samples for verification: Provide color samples of selected color. Samples shall involve normal color and texture variations, include sample sets showing the full range of variations expected.
- G. Affidavit certifying that the material meets the requirements specified.

#### **1.5 QUALITY ASSURANCE:**

- A. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the project is located and who is experienced in providing engineering services of kind indicated.
- B. Manufacturer Qualifications: Minimum of 5 years of experience in manufacturing exterior wall panels similar to those specified.
- C. Installer Qualifications: Acceptable to manufacturer.

#### **1.6 DELIVERY, STORAGE & HANDLING:**

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions, and lead-time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
  - a. Store materials in accordance with manufacturer's recommendations.
  - b. Handle materials carefully to avoid damage to materials and finishes.

#### **1.7 PROJECT CONDITIONS:**

- A. Field Measurements: Verify actual supporting and adjoining construction by field measurements before fabrication, and indicate recorded measurements on final shop drawings. Coordinate construction to ensure that wall panel assemblies fit properly to supporting and adjoining construction and coordinate schedule with construction progress to avoid delaying the work.
  - a. Established dimensions: where field measurements cannot be made without delaying the work, guarantee dimensions and proceed with fabrication of wall panel assemblies corresponding to the established dimensions.



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## **1.8 WARRANTY**

- A. Project warranty refers to Conditions of the Contract for project warranty provisions. Manufacturer's warranty: submit, for Owner's acceptance, manufacturer's standard warranty documents executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.
- B. The Contractor shall warrant the materials to be free of faults and defects in accordance with the General Conditions, except that the warranty shall be extended by paint manufacturer's standard multi-year warranty. The warranty shall be in writing and shall be signed by the manufacturer.

## **PART 2 – PRODUCTS**

### **2.1 MANUFACTURERS:**

- A. Manufacturers: Subject to compliance with requirements, provide products manufactured by: MG McGrath, Inc.  
1387 East Cope Ave; Maplewood, MN 55109; Tel: 651.704.0300; Fax: 651.704.9989; Email: info@mgmcgrath.com; Web: www.mgmcgrath.com
- B. System Type shall be a Drain/Back Ventilated Rain Screen System
  - a. MG D-Set Zalmag Plate Panel System with panel depth of 1.5" and reveal joint s detailed on drawings. Fabricate panel sizes, profiles and shapes as indicated on drawings.
  - b. Alternate systems by other manufacturers/fabricators are to be submitted to the architect not less than 10 working days prior to bid.

### **2.2 MATERIALS:**

- A. Panel Composition
  - a. Face Skin: 16 gauge Zalmag Steel
- B. Panel Tolerance
  - a. Panel Bow: Maximum 0.8% of any 72-inch panel dimension.
  - b. Panel Dimensions: Field fabrication shall be allowed when necessary, but shall be kept to an absolute minimum. All fabrication shall be done under controlled shop conditions when possible.
  - c. Panel lines, breaks and angles shall be sharp, true and surfaces free from warp and buckle.
  - d. Maximum deviation from panel flatness shall be 1/8" in 5'-0" on panel in any direction for assembled units. (Non-accumulative, No Oil Canning).
- C. System Characteristics
  - a. Plans, elevations, details, characteristics and other requirements indicated are based upon standards by one fabricator. It is intended that other manufacturers, receiving prior approval, may be acceptable, provided their details and characteristics comply with size and profile requirements and material/performance standards.



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- b. Fabricate panel system to dimension, size, and profile indicated on the drawings based upon design temperature of 70 F.
- c. Fabricate panel system so that no restraints can be placed on the panel, which might result in compressive skin stresses. The installation detailing shall be such that the panels remain flat regardless of temperature and at all times remain air and water tight.
- d. Finish side of the panel shall be protected during shipping and handling with care during installation to prevent scraping and abrasions that will cause uneven initial pagination.

### **2.3 FABRICATION, GENERAL:**

- A. Tolerances
  - a. Extrude edges at right angles to the wall plane
- B. Panel surfaces shall be free of scratches or marks caused during fabrication
- C. During panel fabrication ensure that panel grain is maintained. Under no circumstances are panel blank sizes to be rotated even if material waste is increased.
- D. Cut extruded horizontal profile to exact required length located to coordinate with horizontal panel joint location.

### **2.4 ACCESSORIES:**

- A. All exposed rivets/fasteners shall be stainless steel.
- B. All hidden fasteners shall be Climaseal coated or stainless steel.
- C. Flashing: 22 gauge Zalmag Steel, same finish as for Zalmag Plate Steel Panel where exposed; secured with concealed fastening method.
- D. Panel System Subgirts: Provide G90 galvanized steel of gauge and spacing required for panel system structural requirements, as recommended by panel manufacture and in accordance with approved shop drawings. To avoid galvanic reaction, separate dissimilar metals.
- E. All proprietary extrusions supplied by fabricator.
- F. No exposed sealant to be used at panel-to-panel connections.

### **2.5 FINISHES, GENERAL:**

- A. Comply with Metal Finishes Manual for architectural metal products recommendations for applying and designating finishes.
- B. Provide non-directional bead blasted finish to all panel faces.

### **2.6 PAINTED EXPOSED ALUMINUM FINISHES:**

- A. Panel Finishes: Zalmag steel finish.
- B. Finish shall be selected by the Architect from Panel Manufacturers' standard color selection guide.
  - a. Color: Match Architect's sample.



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### **PART 3 - EXECUTION**

#### **3.1 PREPARATION:**

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation. Panel substructure shall be level and plumb. Panel substructure shall be structurally sound as determined by that subcontractor's engineer. Panel substructure shall be free of defects detrimental to work and erected in accordance with established building tolerances. Coordinate delivery of such items to project site.

#### **3.2 INSTALLATION:**

- A. Erect panel's level and plumb, in proper alignment in relation to substructure framing and established lines.
- B. Panels shall be erected in accordance with approved shop drawings.
- C. Panel anchorage shall be structurally sound and per engineering recommendations.
- D. Where weathering steel materials come in contact with dissimilar materials, an isolation shim or tape shall be installed at fastening locations.
- E. Locate and place wall panels' level, plumb, and at indicated alignment with adjacent work.

#### **3.3 CLEANING AND PROTECTION:**

- A. Clean exposed surfaces of wall panels that are not protected by temporary covering to remove fingerprints and soil during construction period.
- B. Clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
- C. Protect wall panel assemblies from damage during construction. Use temporary protective coverings where needed as approved by the wall panel manufacturer.