Specifiers: Click on the ¶ icon in the WORD toolbar to reveal detailed instructions

SECTION 07 42 13
METAL WALL PANELS
Morin Metal Panels
MorZip Metal Wall Panels

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Structural standing seam metal wall panels.

B. Accessories including concealed anchor clips, fasteners, perimeter flashing, trim and penetration treatments.

1.2 REFERENCES

A. ASTM International

1. ASTM A240; Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A653; Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
3. ASTM A666; Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
4. ASTM B69; Standard Specification for Rolled Zinc.
5. ASTM B85; Standard Specification for Aluminum Alloy Die Castings.
6. ASTM B117; Standard Practice for Operating Salt Spray (Fog) Apparatus.
7. ASTM B209; Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
8. ASTM B221; Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
9. ASTM B370; Standard Specification for Copper Sheet and Strip for Building Construction.
10. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
11. ASTM E283; Standard Test Method for determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors under Specified Pressure Differences across the Specimen.
12. ASTM E330; Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
13. ASTM E331; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

14. ASTM E1592; Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.

1.3 SUBMITTALS

A. Refer to Section [01 33 00 Submittal Procedures] [Insert section number and title].

B. Product Data: Submit manufacturer current technical literature for each type of product.

C. Shop Drawings - Submit detailed drawings showing:

1. Profile
2. Gauge of panel
3. Location, layout and dimensions of panels
4. Location and type of fasteners
5. Shape and method of attachment of all trim
6. Locations and type of sealants
7. Installation sequence.
8. Other details as may be required for a weathertight installation

D. Samples: Provide nominal 3 x 5 inch of each color indicated. [Provide panel width by 10 inches long minimum] [Insert size].

E. LEED Submittals:

1. Material and Resources (MR)

a. Product Certificates for Credit [**MR 4**] [MR 4.1[and Credit MR 4.2]]: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.

F. Quality Assurance Submittals

1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with requirements.
2. Manufacturer Erection Instructions: Provide manufacturer's written installation instructions including proper material storage, material handling, installation sequence, panel location(s), and attachment methods, details and required trim and accessories.

G. Closeout Submittals

1. Refer to Section [01 78 00 Closeout Submittals] [Insert section number and title].

1.4 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation meeting: Conduct a pre-installation meeting at the job site attended by Owner, Architect, Manufacturer's Technical Representative, Panel Installer, and Contractors of related trades. Coordinate structural support requirements in relation to wall panel system, installation of any separate air/water barriers, treatment of fenestration, and other requirements specific to the project.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer shall have a minimum of ten (10) years experience in the production of metal wall panels. Manufacturer shall demonstrate past experience with examples of projects of similar type and exposure.

B. Installer Qualifications: Installer shall be authorized by the manufacturer regarding proper installation of the specified product, and have a minimum of five (5) years experience with projects of similar size and scope.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section [01 60 00 Product Requirements] [Insert section number and title].

B. Deliver panel materials and components in manufacturer's original, unopened, undamaged packaging with identification labels intact.

C. Store wall panel materials on dry, level, firm, and clean surface. Elevate one end of bundle to allow moisture run-off, cover and ventilate to allow air to circulate and moisture to escape.

1.7 WARRANTY

A. Refer to Section [01 78 36 Warranties] [Insert section number and title].

B. Material Warranty: Standard form in which manufacturer agrees to repair or replace items that fail in materials or workmanship within specified warranty period. The items covered by the warranty include structural performance and material integrity.

1. Warranty Period: Two (2) years from date of Substantial Completion.

C. Installers "Weather-tight" Warranty: The Manufacturer Certified Installer shall provide a "leak-free" wall warranty in which the installer agrees to repair leaks discovered in the wall system under the terms outlined by the wall panel manufacturer within the specified warranty period.

1. Warranty Period: Two (2) years from date Substantial Completion.

D. Weather-tight Warranty: Provide manufacturer's limited weathertightness warranty in which manufacturer agrees to repair or replace components of wall system that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Twenty (20) years from date Substantial Completion, or 20 years and 3 months from the date of shipment from manufacturer's plant, whichever occurs first.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Morin – a Kingspan Group Company; 685 Middle Street, Bristol, Connecticut 06010; 1-800-640-9501 (Toll Free); (www.morincorp.com)

B. Basis of Design: MorZip (Concealed Fastened Wall Panels).

C. Substitution Limitations:

1. Submit written request for approval of substitutions to the Architect [a minimum of [14] days prior to the date for receipt of bids] [Insert time period]. Include the following information:

   a. Name of the materials and description of the proposed substitute.
   b. Drawings, cut sheets, performance and test data.
   c. List of projects similar scope and photographs of existing installations.
   d. Other information necessary for evaluation.

2. After evaluation by Architect, approval will be issued via addendum. No verbal approval will be given.

3. Substitutions following award of contract are not allowed except as stipulated in Division 01 – General Requirements.

2.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal wall panel systems designed to resist the following. Testing shall be done based on ASTM E330 or E1592:

1. Wind Loads: Determine loads based on the following minimum design wind pressures:

a. Uniform pressure [Insert design wind pressure] [as indicated on Drawings].

2. Deflection Limits: Metal wall panel assemblies shall withstand horizontal deflections no greater than [L/120] [L/180] [Insert deflection] of the span.

B. Air Infiltration: Provide metal wall panel assemblies designed to resist air infiltration. Testing shall be done based on ASTM E283. Wall panels when tested shall have a maximum air leakage of 0.01 cfm per square feet of fixed wall area at a minimum static air-pressure differential of 1.57 foot pounds per square foot.

C. Water Penetration under Static Pressure: Provide metal wall panel systems designed to resist penetration of water under static pressure. Testing shall be based on ASTM E331. Wall panels when tested shall have no water leakage at 6 pounds per square foot.

2.3 WALL PANEL MATERIALS

A. Aluminum:

1. Coil stock meeting ASTM B209; 3004-H34 as required for forming operations.
2. Gauge: [0.040] [0.050] inch.

B. Stainless Steel Sheet:

1. ASTM A240 or ASTM A666, [Type 304, dead soft, fully annealed] [Type 316, dead soft, fully annealed].
2. Gauge: [22] [20]

C. Copper:

1. Sheet stock meeting ASTM B370, cold-rolled, H00 or H01 temper.
2. Thickness: 20 ounce per square foot.

D. Zinc:

1. Sheet stock meeting ASTM B69, Type I and Type II, consisting of zinc with copper and titanium additives.
2. Gauge: 1.0 mm

2.4 WALL PANELS

A. Wall Panel Descriptions:

1. Panel Width: [12] [16] [18] inches
2. Profile: MorZip
3. Seam Height: 2½ inches
4. Texture: [Smooth] [Embossed]
5. Curving: [Flat] [Crimped]

B. Liner Panel Description:

1. Panel Width: 12 inches; liner panel series [L-12] [L-12-SF] [L2-12-2F] [L-12W-1] [as indicated on drawings]
2. Panel Width: 24 inches; liner panel series [L-24-5F] [L-24W-2] [L2-24W-0] [L3-24W-0] [L3-24W-3F] [L2-24-5F] [F-24] [as indicated on drawings]

2.5 INSULATION

A. Refer to Section [07 21 00 - Thermal Insulation] [Insert section number and title].

B. Glass-Fiber Board Insulation: ASTM C612, Type IA, unfaced semi rigid insulation. Nominal density of 3 pounds per cubic foot. Size as required for liner panels.

2.6 ACCESSORIES

A. Wall panel accessories: Provide accessories as required for a complete installation. Accessories shall be as indicated on approved shop drawings and per manufacturer's approved standard details.
1. Fasteners: Fasteners as recommended by manufacturer.
2. Concealed Anchor Clips: Floating anchor clip, two piece, or single halter style clip.
3. Closure Strips: Provide closed cell closure strips, minimum 1 inch thick matching metal wall panel profile.

B. Flashing and Trim:

1. Fabricate trim from same material and material thickness as wall panels. Finish must match metal wall panels.
2. Locations include, but are not limited to the following: Drips, sills, jambs, corners, framed openings, parapet caps, reveals and fillers.
3. [Trim shall be provided under Section 07 62 00 - Sheet Metal Flashing and Trim".]

C. Metal Framing:

1. General: ASTM C645, cold-formed metallic-coated steel sheet, [ASTM A653, G40 hot-dip galvanized] [ASTM A653, G60 hot-dip galvanized].
2. Hat-Shaped, Rigid Furring Channels:

    a. Nominal Thickness: [As indicated on Drawings] [0.025 inch] [0.040 inch] [Insert thickness].
    b. Depth: [As indicated on Drawings] [7/8 inch] [1-1/2 inches] [Insert depth].

3. Cold-Rolled Furring Channels: Minimum 1/2-inch wide flange.

    a. Nominal Thickness: [As indicated on Drawings] [0.064 inch] [Insert thickness].
    b. Depth: [As indicated on Drawings] [3/4 inch] [Insert depth].
    c. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with 0.040-inch nominal thickness.
    d. Tie Wire: ASTM A641, Class 1 zinc coating, soft temper, 0.062-inch diameter wire, or double strand of 0.048-inch diameter wire.

D. Panel Sealant:

1. Joint Sealant: ASTM C920 as recommended in writing by metal wall panel manufacturer.
2. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.7 FABRICATION

A. Metal wall panels shall be formed to lap and interconnect with edges of adjacent panels which are then mechanically attached through panel to supports using concealed fasteners.

B. Metal wall panels shall have factory-installed sealant at panel joints to provide a tight seal and minimize noise from movements within panel assembly.

C. Fabricate metal wall panels to eliminate condensation on interior side of panel and with joints between panels designed to form weathertight seals.

E. [Trim Accessories: Fabricate steel trim accessories to comply with recommendations outlined in SMACNA's "Architectural Sheet Metal Manual".]

F. [Trim Accessories: Provide manufacturer's standard extruded aluminum trim.]

G. Soffit panels shall be [perforated] [non-perforated].

2.8 FINISHES

A. Aluminum: Mill finished

B. Stainless Steel: [IIB (bright, cold rolled)] [IV (polished directional satin)]

C. Copper: Natural

D. Zinc: ["Graphite-Gray"] ["Blue-Gray"]

PART 3 - EXECUTION

3.1 EXAMINATION

A. Provide field measurements to manufacturer as required for proper fit of the metal wall panels to building envelope. Measurements shall be provided in a timely manner so that there is no impact to construction or manufacturing schedule.

B. Supporting Steel: All structural supports required for installation of panels shall be by others. Support members shall be installed within the following tolerances:
   1. Plus or minus 1/8 inch in 5 feet in any direction along plane of framing.
   2. Plus or minus ¼ inch cumulative in 20 feet in any direction along plane of framing.
   3. Plus or minus ½ inch from framing plane on any elevation.
   4. Plumb or level within 1/8 inch at all changes of transverse for horizontal corner panel applications.
   5. Verify that horizontal bearing support has been provided behind vertical panel systems and vertical bearing support has been provided behind horizontal panel systems. Width of support shall be as recommended by manufacturer.

C. Examine individual panels upon removing from the bundle; notify manufacturer of panel defects. Do not install defective panels.

3.2 PANEL INSTALLATION

A. Apply sealant to joints per manufacturer's recommendations and approved shop drawings.

B. Install panels level and true-to-line to dimensions and layout indicated on approved shop drawings.

C. Install metal wall panels in one piece lengths from eave to base unless otherwise indicated on approved shop drawings.

D. Attach panels to framing using recommended clips, screws, fasteners and sealants as indicated on approved shop drawings.

E. Installation shall be in accordance with manufacturer's installation guidelines and recommendations. Wall panels shall be installed weathertight, without distortion, buckles or waves.

F. Seaming of panels shall be done using an electric powered seaming machine as recommended by manufacturer.

G. Provide weatherproof fittings for pipe and conduit penetrating walls.

H. Cutting and fitting of panels shall be neat, square and true. Torch cutting is prohibited.

I. Dissimilar materials; where the metal panel system comes into contact with dissimilar materials, treat contact areas as recommended by wall panel manufacturer.

3.3 FLASHING AND TRIM INSTALLATION

A. Place trim and trim fasteners only as indicated per details on the approved shop drawings.

B. Apply sealant at trim, per manufacturer's details and approved shop drawings, for weathertight installation.

3.4 CLEANING AND PROTECTION

A. Remove protective film immediately after installation.

B. Touch-up, repair or replace metal panels and trim that have been damaged.

C. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

END OF SECTION

DISCLAIMER:

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