Metl-Span Exposed Fastener Series™ Metal Wall Panels

Metl-Span Exposed Fastener Series™ Metal Wall Panels are a versatile design choice for both new and retrofit projects. Exposed Fastener Metal Wall Panels may be installed horizontally or vertically and may be inverted if desired. Panels are available with hot-dip galvanized, aluminum and stainless steel substrates. Exposed Fastener Metal Wall Panels are manufactured with a variety of profiles and surface treatments, which are especially attractive to creative designers.

Metl-Span Exposed Fastener Series™ Metal Wall Panels are manufactured and coated with Metl-Span's own Fluorofinish® Kynar 500® or Hylar 5000®-based fluoropolymer.

be used as a single-skin application or as the exterior cladding components of a wall assembly that includes Metl-Span Backup Wall insulated core metal wall backup panels providing an insulated substrate complete with moisture, air, and vapor control.

Consult your local Metl-Span representative for design assistance. Contact Metl-Span, Lewisville, TX, (972)221-6656, Email: info@metlspan.com, www.metlspan.com for a list of offices.

Metl-Span is a world leader in the manufacture of metal building products and systems for commercial, industrial, architectural and cold storage walls and roofs. Metl-Span is also a world-class coil coater, coating a wide range of products for customers in numerous industries.

SECTION 07 42 13.13

METAL WALL PANELS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Exposed fastener metal wall panels as part of the assembly described in Section 2.1.

1.2 RELATED REQUIREMENTS

Specifier: Edit list below to correspond to Project.

A. Division 01 Section "Sustainable Design Requirements" for related requirements.

B. Division 07 Section "Sheet Metal Flashing and Trim" for sheet metal copings, flashings, reglets and roof drainage items.

C. Division 07 Section "Joint Sealants" for field-applied joint sealants.

1.3 REFERENCES

A. American Architectural Manufacturer's Association (AAMA):

1. AAMA 620 - Voluntary Specification for High Performance Organic Coatings on Coil Coated Architectural Aluminum Substrates.
2. AAMA 621 - Voluntary Specification for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) and Zinc-Aluminum Coated Steel Substrates.
3. AAMA 2605 – Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

B. American Society of Civil Engineers (ASCE):

1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. ASTM International (ASTM):

1. ASTM A 653/A 653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM A 666 – Standard specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM A 755/A 755M - Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
4. ASTM A 792/A 792M – Standard specification for Steel Sheets, 55% Aluminum – Zinc Alloy. Coated by hot-dip process.
5. ASTM B 209 - Specification for Aluminum and Aluminum Alloy Sheet and Plate.

6. ASTM C 754 - Specification for Installation of Steel Framing Members to Receive Screw Attached Gypsum Panel Products.
7. ASTM C 920 - Specification for Elastomeric Joint Sealants.
8. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
9. ASTM E 283 - Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences across the Specimen.
10. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA):

1. Architectural Sheet Metal Manual.

1.4 PERFORMANCE REQUIREMENTS

Specifier: Add requirements to this Article if Project requirements include delegated design by Contractor.

A. General: Provide metal wall panel assemblies meeting performance requirements as determined by application of specified tests by a qualified testing agency on manufacturer's standard assemblies.

B. Air Infiltration: When installed over Insulated Composite Backup Panels maximum 0.06 cfm/sq. ft. (0.3 L/s per sq. m) per ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa), using minimum 10-by-10 foot (3050-by-3050 mm) test panel that includes side joints.

C. Water Penetration, Static Pressure: When installed over Insulated Composite Backup Panels no uncontrolled water penetration per ASTM E 331 at a minimum static differential pressure of 6.24 lbf/sq. ft. (299 Pa), using minimum 10-by-10 foot (3050-by-3050 mm) test panel that includes side joints.

D. Maximum allowable deflection limitation.

Specifier: Metl-Span recommends minimum 22 gage metal wall panels for enhanced structural performance and optimum aesthetic appearance. Metl-Span exposed fastener metal wall panels, except Super Rib are also available in 24 gage.

Specifier: Select one of the following subparagraphs based upon the selected panel depth and configuration.

1. Single Skin Panels Less than 1-inch (25-mm) in Depth: Limited to L/90 deflection of panel perimeter normal to plane of wall.
2. Single Skin Panels greater than 1-inch (25-mm) in Depth: Limited to L/120 deflection of panel perimeter normal to plane of wall.

E. Secondary Metal Framing: Design secondary metal framing for metal wall panel assembly according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."

Specifier: Delete paragraph below if not applicable. Retain High Velocity Hurricane Zone approval if required per local jurisdiction.

F. Florida State Building Code Compliance: Provide wall panels that comply with the requirements for installation under Florida State Building Code [including] [aside of] the High Velocity Hurricane Zone.

Specifier: For horizontal applications, and other applications where thermal movement is an issue, retain the requirements below.

G. Thermal Movements: Allow for thermal movements from variations in both ambient and internal temperatures. Accommodate movement of support structure caused by thermal expansion and contraction.

Specifier: Retain paragraph below if foam plastic insulation is included within the wall system.

H. Wall systems that incorporate foam plastic insulation must be tested by the foam plastic supplier in accordance with NFPA-285.

1.5 QUALITY ASSURANCE

A. Manufacturer/Source: Provide metal wall panel and panel accessories from a single manufacturer.

Specifier: Retain paragraph below if Owner allows substitutions but requires strict control over qualifying of substitutions.

B. Manufacturer Qualifications: Approved manufacturer listed in this Section with minimum 10 years experience in manufacture of similar products in successful use in similar applications.

1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:

   a. Product data, including certified independent test data indicating compliance with requirements.
   b. Samples of each component.
   c. Project references: Minimum of 5 installations not less than 5 years old, with Owner and Architect contact information.
   d. Sample warranty.

2. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements.
3. Approved manufacturers must meet separate requirements of Submittals Article.

C. Wall Systems Installer Qualifications: Experienced Installer with minimum of 5 years experience with successfully completed projects of a similar nature and scope.

1.6 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct preinstallation meeting at site attended by Owner, Architect, manufacturer's representative, and other trade contractors.

1. Coordinate building framing in relation to metal wall panel assembly.
2. Coordinate installation of building air and water barrier behind metal wall panel assembly.
3. Coordinate window, door and louver, and other openings and penetrations of metal wall panel assembly.

1.7 ACTION SUBMITTALS

A. Product Data: Manufacturer's data sheets, for specified products.

1. Include data indicating compliance with performance requirements.

B. Shop Drawings: Provide shop drawings prepared by manufacturer or manufacturer's authorized Installer. Include full elevations showing openings and penetrations. Include details of each condition of installation and attachment. Provide details at a minimum scale 1-1/2-inch per foot (1:8) of all required trim and extrusions needed for a complete installation.

1. Indicate points of supporting structure that must coordinate with metal wall panel assembly installation.

C. Samples for Initial Selection: For each product specified. Provide representative color charts of manufacturer's full range of colors.

D. Samples for Verification: Provide 12-inch (300 mm) section of panel(s) showing finishes. Provide 12-inch (300 mm) long pieces of trim pieces and other exposed components.

1.8 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency.

Specifier: Retain paragraphs below when Project requirements include compliance with Federal Buy American provisions. Metl-Span Metal Wall Panels comply with requirement.

B. Buy American Act Certification: Submit documentation certifying that products comply with provisions of the Buy American Act 41 U.S.C 10a – 10d.

Specifier: Retain below when authorities having jurisdiction require certification for high velocity hurricane zone.

C. State of Florida High Velocity Hurricane Zone, (HVHZ). Style-Rib, MR3-36, & Super-Rib only in 20 gage minimum.

D. Qualification Information: For Installer firm.

E. Manufacturer's warranty: Submit sample warranty.

1.9 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Protect metal wall panel products during shipping, handling, and storage to prevent staining, denting, deterioration of components or other damage.

1. Deliver, unload, store, and erect metal wall panel products and accessory items without misshaping panels or exposing panels to surface damage from weather or construction operations.

1.11 WARRANTY

Specifier: Warranty terms below are available from Metl-Span. Verify that other allowable manufacturers furnish warranty meeting requirements.

A. Special Manufacturer's Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace components of metal wall panel assemblies that fail in materials and workmanship within **[**two**]** years from date of Substantial Completion.

Specifier: Consult Metl-Span representative to verify available finish warranty.

B. Special Panel Finish Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace metal wall panels that display evidence of deterioration of finish within [20] years from the date of substantial completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

Specifier: Retain one or more of five wall system descriptions below that correspond to Project Requirements; edit as required.

System (A) below describes installation of metal wall panels over Metl-Span BW Systems.

A. **Metal Wall Panels over Insulated-Composite Backup Panel Wall System**: Single-skin exposed fastener metal wall panels serving as the exterior rainscreen cladding component of a metal wall panel system that includes insulated composite metal wall backup panels specified in Division 07 Section "Insulated-Composite Backup Panel System." Metal wall backup panels provide thermal, air, water, and water vapor control. Metal wall panel installation specified in this Section includes secondary metal subgirt framing for panel attachment.

B. **Metal Wall Panels over Multi-Component Framed Wall System**: Single-skin exposed fastener metal wall panels applied as exterior rainscreen cladding over wall framing specified in Division 05 Section "Cold-Formed Metal Framing" with exterior sheathing specified in Division 06 Section "Sheathing", an applied membrane that provides air, moisture, and water vapor control specified in Division 07 Section "Air Barriers", and insulation within the framing specified in Division 07 Section "Thermal Insulation." Metal wall panel installation specified in this Section includes secondary metal subgirt framing for panel attachment.

Specifier: Retain subparagraphs below. Product is not by Metl-Span.

1. Air, moisture, and water vapor control membrane is provided under Division 07 Section "Air Barriers."

C. **Metal Wall Panels over Outside-Insulated Framed Wall System:** Single-skin exposed fastener metal wall panels applied as exterior rainscreen cladding over wall framing specified in Division 05 Section "Cold-Formed Metal Framing" with exterior sheathing specified in Division 06 Section "Sheathing", an applied membrane that provides air, moisture, and water vapor control specified in Division 07 Section "Air Barriers", and insulation **[**within the framing and**]** applied outboard of the sheathing specified in Division 07 Section "Thermal Insulation." Metal wall panel installation specified in this Section includes secondary metal subgirt framing for panel attachment.

Specifier: Retain subparagraphs below. Product is not by Metl-Span.

1. Air, moisture, and water vapor control membrane is provided under Division 07 Section "Air Barriers."

D. **Metal Wall Panels over Masonry Wall System**: Single-skin exposed fastener metal wall panels applied as exterior rainscreen cladding over a masonry wall **[**and rigid board insulation**]** specified in Division 04 Section "Unit Masonry" and an applied membrane that provides air, moisture, and water vapor control specified in Division 07 Section "Air Barriers." Metal wall panel installation specified in this Section includes secondary metal subgirt framing for panel attachment.

Specifier: Retain subparagraphs below for horizontal panels. Product is not by Metl-Span.

1. Air, moisture, and water vapor control membrane is provided under Division 07 Section "Air Barriers."

E. **Metal Wall Panels over Uninsulated Framed [Screen] Wall System**: Single-skin exposed fastener metal wall panels applied as exterior barrier cladding over wall framing specified in **[**Division 05 Section "Cold-Formed Metal Framing" **] [**Division 13 Section "Metal Building Systems" **] [**and water-resistive barrier specified in Division 07 Section "Weather Barriers"**]**. Metal wall panel installation specified in this Section may include secondary metal subgirt framing for panel attachment.

2.2 MANUFACTURERS

A. Basis of Design: **Metl-Span, Exposed Fastener Series Metal Wall Panels**. Provide basis of design product **[**, or comparable product approved by Architect prior to bid**]**.

1. Metl-Span; Lewisville, TX 75057. Tel: (877)585-9969. Tel: (972)221-6656. Fax: (972)420-9382. Email: info@metlspan.com. Web: www.metlspan.com.

2.3 METAL WALL PANEL MATERIALS

A. **Metallic-Coated Steel Face Sheet:** Coil-coated, ASTM A 755/A 755M.

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Class Z275), structural steel.

Specifier: Select required metal face sheet thickness from options below.

Specifier: Metl-Span recommends minimum 22 gage metal wall panels for enhanced structural performance and optimum aesthetic appearance. Metl-Span exposed fastener metal wall panels, except Super Rib, are also available in 24 gage.

2. Face Sheet: Minimum [0.024 inch/24 gage (0.60 mm)] [0.030 inch/22 gage (0.76 mm)] [0.036 inch/20 gage (0.91 mm)] [0.047 inch/18 gage (1.19 mm)] nominal uncoated thickness.
3. Surface: [Unembossed [Non-Directional Embossed].

2.4 EXPOSED FASTENER PROFILE METAL WALL PANELS

Specifier: Metl-Span EXPOSED FASTENER metal wall panels are suitable for horizontal and vertical installation. Continuous shims provide a ventilated cavity and a drain plane behind panels when required. Standard lengths are 5 to 40 feet; custom length panels are available on special order.

Specify optional field-applied sealant in vertical panel side laps when added water resistance is required. Metl-Span recommends a complete water-resistant barrier behind horizontal panels.

If using more than one metal wall panel, retain the drawing designation below for each panel. If metal types, thicknesses, surfaces, or finish systems differ, add notes below to indicate the metal type, thickness, surface, and finish for each panel on project.

A. Metal Wall Panels, General: Factory-formed, Exposed fastener panels with interconnecting side joints, fastened to supports with exposed fasteners, with field-applied sealants in side laps when required to meet performance requirements.

B. Ribbed profile with lap joint **MWP#___**:

1. Basis of Design Product: **Metl-Span, BR5-36**.
2. Panel Coverage: 36 inches (914 mm).
3. Panel Height: 1.50 inches (38 mm).
4. Rib Spacing: 5 at 7.20 inches (183 mm) o.c.

C. Ribbed profile with lap joint **MWP#___:**

1. Basis of Design Product: **Metl-Span, MR3-36**.
2. Panel Coverage: 36 inches (914 mm).
3. Panel Height: 3.0 inches (76 mm).
4. Rib Spacing: 3 at 12 inches (305 mm) o.c.

D. Ribbed profile with raised pans with lap joint **MWP#___**:

1. Basis of Design Product: **Metl-Span, TR4-36**.
2. Panel Coverage: 36 inches (914 mm).
3. Panel Height: 1.50 inches (38 mm).
4. Rib Spacing: 4 at 9 inches (229 mm) o.c.

E. Symmetrical corrugated profile with lap joint. **MWP#___**:

1. Basis of Design Product: **Metl-Span, Econolap 3/4 inch**.
2. Panel Coverage: 34.66 inches (880 mm).
3. Panel Height: 0.75 inches (19 mm).
4. Corrugation Spacing: 2.66 inches (68 mm) o.c.

F. Symmetrical deep rib profile with lap joint **MWP#___**:

1. Basis of Design Product: **Metl-Span, Super-Rib**.
2. Panel Coverage: 24 inches (610 mm).
3. Panel Height: 4 inches (102 mm).
4. Rib Spacing: 12 inches (305 mm) o.c.

G. Symmetrical rib profile with lap joint **MWP#___**:

1. Basis of Design Product: **Metl-Span, Style-Rib.**
2. Panel Coverage: 36 inches (914 mm).
3. Panel Depth: 1.50 inches (38 mm).
4. Rib Spacing: 5 at 7.2 inches (183 mm) o.c.

Specifier: Select metallic-coated steel face sheet or aluminum face sheet finish system from options below. AAMA 620 is aluminum sheet finish standard; AAMA 621 is metallic-coated steel sheet finish standard.

A. Exposed Coil-Coated Finish System:

1. Fluoropolymer Two-Coat System: 0.2 mil primer with 0.8 mil 70 percent PVDF fluoropolymer color coat, AAMA **[**620**]** **[**621**]**.

a. Basis of Design: **Metl-Span Fluoropon finish**.

B. Color:

Specifier: Retain one or both subparagraphs below has required for Project.

1. Exterior Surface: **[**As indicated**]** **[**As selected by Architect from manufacturer's standard colors**]** **[**Match Architect's custom color**]**.
2. Interior Surface: **[**Manufacturer's standard primer color**]** **[**As indicated**]** **[**As selected by Architect from manufacturer's standard colors**]** **[**Match Architect's custom color**]**.

2.5 METAL WALL PANEL ACCESSORIES

Specifier: Retain paragraph below when metal wall panels are used in conjunction with **Metl-Span Backup** metal wall panel backup system, which provides a one-step insulated substrate incorporating watertight joints and air/vapor control.

A. Metal Wall Panel Backup System: Refer to Division 07 Section "Insulated-Composite Backup Panel System."

B. Metal Wall Panel Accessories, General: Provide complete metal wall panel assembly incorporating trim, copings, fasciae, parapet caps, soffits, sills, inside and outside corners, and miscellaneous flashings. Fabricate accessories in accordance with SMACNA Manual. Provide

manufacturer's factory-formed clips, shims, flashings, gaskets, lap strips, closure strips, and caps for a complete installation as required for the following:

Specifier: Select and edit appropriate installation description below.

1. Single-skin application over metal framing [and secondary framing].
2. Single-skin application over insulated, sheathed frame wall with air and water resistant barrier.
3. Single-skin application over furred masonry backup with air and water resistant barrier.
4. Multi-component wall system, consisting of metal wall panel application over insulated core metal wall panel backup system.

2.6 SECONDARY METAL FRAMING

A. Miscellaneous Framing Components, General: Cold-formed metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z180).

1. Hat Channels: 0.06 inch/16 ga. (1.52 mm) minimum – nominal thickness.
2. Sill Channels: 0.06 inch/16 ga. (1.52 mm) minimum – nominal thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine metal wall panel substrate with Installer present. Inspect for erection tolerances and other conditions that would adversely affect installation of metal wall panels.

B. Wall Substrate: Confirm that wall substrate is within tolerances acceptable to metal wall panel system manufacturer.

1. Maximum deviations acceptable:

a. 1/4-inch in 20 feet (6.4 mm in 6 m) vertically or horizontally from face plane of framing.
b. 1/2-inch (12.7 mm) across building elevation.
c. 1/8-inch in 5 feet (3.2 mm in 1.5 m).

Specifier: Retain one, two, or three following paragraphs as appropriate to Project.

C. **Framing**: Inspect framing that will support metal wall panels to determine if support components are installed as indicated on approved shop drawings. Confirm presence of acceptable framing members at recommended spacing to match installation requirements of metal wall panels.

D. **Openings**: Verify that windows, doors, louvers and other penetrations match layout on shop drawings.

E. **Air/Moisture Barriers**: Confirm that work has been completed, inspected, and tested as required.

F. Advise G.C, in writing, of out-of-tolerance work and other deficient conditions prior to proceeding with metal wall panel system installation.

G. Correct out of tolerance work and other deficient conditions prior to panel installation.

3.2 SECONDARY FRAMING INSTALLATION

Specifier: Retain article only if secondary framing is part of work of this Section.

A. Secondary Metal Framing: Install secondary metal framing components to tolerances indicated, as shown on approved shop drawings. Install secondary metal framing and other metal panel supports per ASTM C 1007 and metal wall panel manufacturer's recommendations.

3.3 METAL WALL PANEL INSTALLATION

A. General: Install metal wall panels in accordance with approved shop drawings and manufacturer's recommendations. Install metal wall panels in orientation, sizes, and locations indicated. Anchor metal wall panels and other components securely in place.

B. Attach panels to metal framing using recommended screws, fasteners, sealants, and adhesives indicated on approved shop drawings.

1. Fasteners for Steel Wall Panels: Stainless-steel for exterior locations and locations exposed to moisture; carbon steel for interior use only. Use fasteners in conjunction with 15mm diameter stainless steel metal washers with bonded EPDM.
2. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
3. Dissimilar Materials: Where elements of metal wall panel system will come into contact with dissimilar materials, treat faces and edges in contact with dissimilar materials as recommended by manufacturer.

C. Joint Sealers: Install joint sealants where indicated on approved shop drawings.

3.4 ACCESSORY INSTALLATION

A. General: Install metal wall panel accessories with positive anchorage to building. Coordinate installation with flashings and other components.

1. Install related flashings and sheet metal trim per requirements of Division 07 Section "Sheet Metal Flashing and Trim."
2. Install components required for a complete metal wall panel assembly, including trim, copings, corners, lap strips, flashings, sealants, fillers, closure strips, and similar items.
3. Comply with performance requirements and manufacturer's written installation instructions.
4. Set units true to line and level as indicated.

3.5 FIELD QUALITY CONTROL

Specifier: Retain paragraph below when scope and complexity of metal wall panel installation justifies inspection expense.

A. Manufacturer's Field Service: Engage a service representative authorized by metal wall panel manufacturer to inspect completed installation. Submit written report.

B. Correct deficiencies noted in manufacturer's report.

3.6 CLEANING AND PROTECTION

A. Remove temporary protective films. Clean finished surfaces as recommended by metal wall panel manufacturer. Clear weep holes and drainage channels of obstructions, dirt, and sealant. Maintain in a clean condition during construction.

B. Replace damaged panels and accessories that cannot be repaired by finish touch-up or minor repair.

END OF SECTION