

SECTION 07 42 13

METAL SOFFIT PANELS
01/08

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 501.1 (2005) Methods of Test for Exterior Walls

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG03-3 (2002) Cold-Formed Steel Design Manual Set

AISI/COS/NASPEC (2001, Supplement 2004) North American Specification for the Design of Cold-Formed Steel Structural Members

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE/SEI 7-05 (2006) Minimum Design Loads for Buildings and Other Structures, Including Supplement No. 1

ASTM INTERNATIONAL (ASTM)

ASTM A 1008/A 1008M (2008a) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened

ASTM A 123/A 123M (2008) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A 36/A 36M (2008) Standard Specification for Carbon Structural Steel

ASTM A 424 (2006) Standard Specification for Steel Sheet for Porcelain Enameling

ASTM A 463/A 463M (2006) Standard Specification for Steel Sheet, Aluminum-Coated

ASTM A 606 (2004) Standard Specification for Steel Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance

ASTM A 653/A 653M	(2007) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A 755/A 755M	(2003; R 2008) Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products
ASTM A 780	(2009) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A 792/A 792M	(2008) Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
ASTM A 924/A 924M	(2007) Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
ASTM B 117	(2007) Standing Practice for Operating Salt Spray (Fog) Apparatus
ASTM C 286	(1999; 2004) Standard Terminology Relating to Porcelain Enamel and Ceramic-Metal Systems
ASTM C 920	(2005) Standard Specification for Elastomeric Joint Sealants
ASTM D 1308	(2002; R 2007) Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM D 1654	(2008) Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
ASTM D 2244	(2007) Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
ASTM D 2247	(2002) Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D 2794	(1993; R 2004) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 3359	(2008) Measuring Adhesion by Tape Test
ASTM D 3363	(2005) Film Hardness by Pencil Test
ASTM D 4214	(2007) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films

ASTM D 4587	(2005) Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings
ASTM D 522	(1993a; R 2008) Mandrel Bend Test of Attached Organic Coatings
ASTM D 523	(2008) Standard Test Method for Specular Gloss
ASTM D 5894	(2005) Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)
ASTM D 610	(2008) Evaluating Degree of Rusting on Painted Steel Surfaces
ASTM D 714	(2002e1) Evaluating Degree of Blistering of Paints
ASTM D 822	(2001; R 2006) Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
ASTM D 968	(2005e1) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM E 1592	(2005) Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
ASTM E 283	(2004) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E 331	(2000) Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E 84	(2007b) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G 23	(1996) Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials
METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)	
MBMA MBSM	(2002) Metal Building Systems Manual
NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)	
NAAMM AMP 500	(2006) Metal Finishes Manual

PORCELAIN ENAMEL INSTITUTE (PEI)

PEI 1001 (1996) Specification for Architectural Porcelain Enamel (ALS-100)

PEI CG-3 (2005) Color Guide for Architectural Porcelain Enamel

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 1793 (2006) Architectural Sheet Metal Manual, Sixth Edition, Second Printing

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Paint 12 (1982; E 2000) Paint Specification No. 12 Cold-Applied Asphalt Mastic (Extra Thick Film)

U.S. NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

NAVFAC A-A-50570 (1997) Paint, Water-Borne, Acrylic Or Modified Acrylic, Semigloss, For Metal Surfaces

UNDERWRITERS LABORATORIES (UL)

UL 580 (2006) Tests for Uplift Resistance of Roof Assemblies

UL Bld Mat Dir (2008) Building Materials Directory

1.2 DEFINITIONS

Metal Soffit Panel: Metal Soffit Panels, attachment system components and accessories necessary for a complete weather-tight soffit system.

1.3 DESCRIPTION OF SOFFIT PANEL SYSTEM

Factory color finished, galvalume metal soffit panel system with concealed fastening attachment. Panel profile must be flush face and with stiffening ribs in the flat of the panel as shown on drawings.

1.3.1 Metal Soffit Panel General Performance

Comply with performance requirements, conforming to AISI/COS/NASPEC, without failure due to defective manufacture, fabrication, installation, or other defects in construction. Soffit panels and accessory components must conform to the following standards:

ASTM A 1008/A 1008M

ASTM A 123/A 123M

ASTM A 36/A 36M

ASTM A 424, ASTM C 286, PEI 1001, PEI CG-3 for Porcelain and Ceramic Enameling

ASTM A 653/A 653M

ASTM A 463/A 463M for aluminum coated steel sheet

ASTM A 606

ASTM A 755/A 755M for metallic coated steel sheet for exterior coil pre-painted applications.

ASTM A 780 for repair of damage or uncoated areas of hot-dipped galvanized coating.

ASTM A 924/A 924M for metallic coated steel sheet

ASTM D 522 for applied coatings

UL Bld Mat Dir

1.3.2 Structural Performance

Maximum calculated fiber stress must not exceed the allowable value in the AISI or AA manuals; a one third overstress for wind is allowed. Midspan deflection under maximum design loads is limited to L/180. Contract drawings show the design wind loads and the extent and general assembly details of the metal panels. Contractor must provide design for members and connections not shown on the drawings. Panels and accessories must be the products of the same manufacturer.

Provide metal soffit panel assemblies complying with the load and stress requirements in accordance with ASTM E 1592. Wind Load force due to wind action governs the design for panels.

Soffit panel systems and attachments are to resist the wind loads as determined by UL 580 and ASCE/SEI 7-05 in the geographic area where the construction will take place, in pounds per square foot. Submit five copies of wind load tests and seismic tests to the Contracting Officer.

1.3.3 Air Infiltration

Air leakage must conform to the limits through the wall assembly area when tested according to ASTM E 283.

1.3.4 Water Penetration Under Static Pressure

No water penetration when tested according to ASTM E 331.

1.3.5 Water Penetration Under Dynamic Pressure

No evidence of water leakage when tested according to AAMA 501.1.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submit Documentation for the following items:

Qualification of Manufacturer; G, AE

Qualification of Installer; G, AE

Sample Warranty; G, AE

SD-02 Shop Drawings

Installation Drawings ; G, AE

SD-03 Product Data

Submit Manufacturer's catalog data for the following items:

Factory Color Finish
Closure Materials
Sealants and Caulking
Accessories

SD-04 Samples

Submit as required each of the following samples:

Submit manufacturer's color charts and chips, approximately 4 by 4 inches, showing full range of colors, textures and patterns available for soffit panels with factory applied finishes.

SD-05 Design Data

As applicable, submit the following wind load design analysis; G, AE data, to include, but not limited to:

wind speed
exposure category,co-efficient,importance factor
negative pressures for each zone
methods and requirements of attachment

SD-06 Test Reports

Submit test reports for the following in accordance with the referenced articles in this section.

Wind Load Tests; G, AE

SD-09 Manufacturer's Field Reports

Submit 5 bound copies of the Manufacturer's Field Reports; G

SD-11 Closeout Submittals

Warranty; G, AE
Maintenance Instructions; G, AE

20 year "No Dollar Limit" warranty for labor and material

1.5 QUALITY ASSURANCE

1.5.1 Pre-Installation Conference

Upon notification of submittal receipt and approval by the Contracting Officer; and prior to the commencement of the work, the Contractor must attend a pre-installation conference to review the following:

- a. Drawings and Specifications.
- b. Qualification of Installer.
- c. Sample Warranty

d. [Color charts and chips](#)

e. Construction schedule, availability of materials, Installer's personnel, equipment and facilities required to progress with the work without delay.

f. Methods and procedures related to soffit panel installation, including manufacturer's written instructions. Explicitly identify in writing, differences between manufacturer's instructions and the specified requirements.

g. Support conditions for compliance with requirements, including alignment between and attachment to structural members.

h. Flashing, special soffit details, penetrations, openings, and condition of other construction that will affect metal soffit panels.

i. Governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.

j. Temporary protection requirements for metal soffit panel assembly during and after installation.

k. Soffit panel observation and repair procedures after metal soffit panel installation. Provide detailed written instructions including copies of Material Safety Data Sheets for maintenance and repair materials, and manufacturer's [maintenance instructions](#).

1.5.1.1 [Installation Drawings](#)

Installation shop drawings for soffit panels, flashing, accessories, and anchorage systems must indicate completely dimensioned structural frame and erection layouts, openings, special framing details, and construction details at corners, building intersections and flashing, location and type of mastic and metal filler strips.

1.5.1.2 [Wind Load Design Analysis](#)

Wind design analysis must include soffit plan delineating dimensions and attachment patterns. Wind design analysis shall be stamped and signed by a registered Civil or Structural Engineer currently licensed in the State of California.

1.5.2 [Qualification of Manufacturer](#)

Certify that metal soffit panel system manufacturer has a minimum of five (5) years experience in manufacturing metal soffit system and accessory products.

Manufacturer must also provide engineering services by an authorized engineer; currently licensed in the geographical area where construction will take place, having a minimum of four (4) years experience as an engineer knowledgeable in wind load design analysis, protocols and procedures per [MBMA MBSM](#), "Metal Building Systems Manual"; [ASCE/SEI 7-05](#), and [ASTM E 1592](#).

Provide certified engineering calculations, using the products submitted, for Wind load requirements in accordance with [ASCE/SEI 7-05](#).

1.5.2.1 Manufacturer's Certificates

Submit certification from coil stock manufacturer or supplier that the machinery used will form the provided coil stock without warping, waviness, or rippling that is not a part of the panel profile, and without damage, abrasion or marring of the finish coating.

Provide evidence that products used within this specification are manufactured in the United States.

1.5.3 Certified Qualification of Installation Contractor

The installation contractor must be approved and certified by the metal soffit panel manufacturer prior to beginning the installation of the metal soffit panel system. Subcontracting by Certified Contractor for the metal soffit panel work is not permitted.

1.5.4 Single Source

Obtain each type of metal soffit panels, clips, [closure materials](#) and other [accessories](#) from the standard products of the single source from a single manufacturer to operate as a complete system for the intended use.

1.6 DELIVERY, HANDLING, AND STORAGE

Deliver and protect package components, sheets, metal soffit panels, and other manufactured items to prevent damage or deformation during transportation and handling.

Unload, store, and erect metal soffit panels in a manner to prevent bending, warping, twisting, and surface damage.

Stack and store metal soffit panels horizontally on platforms or pallets, covered with suitable weather-tight and ventilated covering to ensure dryness, with positive slope for drainage of water. Do not store metal soffit panels in contact with other materials that might cause staining, denting, or other surface damage.

Retain strippable protective covering on metal soffit panel until actual installation.

1.7 PROJECT CONDITIONS

1.7.1 Field Measurements

Verify locations of soffit framing and opening dimensions by field measurements before metal soffit panel fabrication and indicate measurements on Shop Drawings.

1.7.2 Weather Limitations

Proceed with installation preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into soffit system or building.

1.8 [WARRANTY](#)

Warranty must conform to the Sample Warranty as reviewed and approved by

the Contracting Officer at the Pre-Installation Conference.

1.8.1 20 Year 'No Dollar Limit Warranty for Labor and Material

Furnish manufacturer's no-dollar-limit warranty for the metal soffit panel system. The warranty period is to be no less than twenty (20) years from the date of Government acceptance of the work. The warranty is to be issued directly to the Government. The warranty is to provide that if within the warranty period the metal soffit panel system shows evidence of corrosion, perforation, rupture or excess weathering due to deterioration of the soffit panel system resulting from defective materials and correction of the defective workmanship is to be the responsibility of the wall panel system manufacturer. Repairs that become necessary because of defective materials and workmanship while metal soffit panel system is under warranty are to be performed within 24 hours after notification, unless additional time is approved by the Contracting Officer. Failure to perform repairs within 24 hours of notification will constitute grounds for having emergency repairs performed by others and not void the warranty.

PART 2 PRODUCTS

2.1 FABRICATION

Fabricate and finish metal soffit panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel. Fabricate metal soffit panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weather-tight and minimize noise from movements within panel assembly.

2.1.1 Sheet Metal Accessories

Fabricate flashing and trim to comply with recommendations in [SMACNA 1793](#) that apply to the design, dimensions, metal, and other characteristics of item indicated:

- a. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- b. End Seams: fabricate nonmoving end seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- c. Sealed Joints: form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with [SMACNA 1793](#).
- d. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
- e. Fabricate cleats and attachment devices of size and metal thickness recommended by [SMACNA 1793](#) or by metal soffit panel manufacturer for application, but not less than thickness of metal being secured.

2.2 PANEL MATERIALS

2.2.1 Steel Sheet

Roll-form steel wall panels to the specified profile, 24 gauge and depth as indicated. Material must be plumb and true, and within the tolerances listed:

- b. Aluminum-Zinc Alloy-coated Steel Sheet conforming to **ASTM A 792/A 792M** and **AISI SG03-3**.
- c. Individual panels must be continuous length to cover the entire length of any unbroken wall area with no joints or seams and formed without warping, waviness, or ripples that are not part of the panel profile and free of damage to the finish coating system.
- d. Provide panels with thermal expansion and contraction consistent with the type of system specified.
 - i. Panel Configuration:
 - a. Concealed fastener soffit panel.
 - b. Profile: 12 inch full panel with 2 stiffening " pencil" ribs.
 - c. Nominal Height: 1-1/2-inches.
 - d. Nominal Width: 12-inches.
 - e. Perforated: 20 percent minimum open area.
 - ix. Smooth, flat Surface Texture.

2.2.2 Factory Color Finish

Comply with **NAAMM AMP 500** for recommendations for applying and designating finishes. Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

All panels are to receive a factory-applied polyvinylidene fluoride Kynar 500/Hylar 5000 finish consisting of a baked-on top-coat with a manufacturer's recommended prime coat conforming to the following:

2.2.2.1 Metal Preparation

Carefully prepare all metal surface for painting on a continuous process coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with acid rinse, and thorough drying.

2.2.2.2 Prime Coating

Apply a base coat of epoxy paint, specifically formulated to interact with the top-coat, to the prepared surfaces by roll coating to a dry film thickness of 0.20 + 0.05 mils. Prime coat must be oven cured prior to application of finish coat.

2.2.2.3 Exterior Finish Coating

Roll coat the finish coating over the primer by roll coating to dry film

thickness of 0.80 + 5 mils (3.80 + 0.50 mils for Vinyl Plastisol) for a total dry film thickness of 1.00 + 0.10 mils (4.00 + 0.10 mils for Vinyl Plastisol). Oven-cure finish coat.

2.2.2.4 Interior Finish Coating

Apply a wash-coat on the reverse side over the primer by roll coating to a dry film thickness of 0.30 + 0.05 mils for a total dry film thickness of 0.50 + 0.10 mils. Oven-cured the wash coat.

2.2.2.5 Color

Provide exterior finish color as shown on Exterior Finish Schedule Drawings.

2.2.2.6 Physical Properties

Coating must conform to the industry and manufacturer's standard performance criteria as listed by the following certified test reports:

General: SSPC Paint 12, NAVFAC A-A-50570, ASTM D 5894, and ASTM D 4587.

Abrasion: ASTM D 968

Adhesion: ASTM D 3359

Chalking: ASTM D 4214

Chemical Pollution: ASTM D 1308

Color Change and Conformity: ASTM D 2244

Creepage: ASTM D 1654

Cyclic Corrosion Test: ASTM D 5894

Flame Spread: ASTM E 84

Flexibility: ASTM D 522

Formability: ASTM D 522

Gloss at 60 and 85 degrees: ASTM D 523

Humidity: ASTM D 2247 and ASTM D 714

Oxidation: ASTM D 610

Pencil Hardness: ASTM D 3363

Reverse Impact: ASTM D 2794

Salt Spray: ASTM B 117

Weatherometer: ASTM G 23 and ASTM D 822

2.3 MISCELLANEOUS METAL FRAMING

Cold-formed metallic-coated steel sheet conforming to ASTM A 653/A 653M and specified in Section 09 22 00 METAL SUPPORT ASSEMBLIES unless other wise indicated.

2.3.1 Fasteners for Miscellaneous Metal Framing

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to supporting members and substrates in accordance with the wall panel manufacturer's and ASCE/SEI 7-05 requirements.

2.4 FASTENERS

2.4.1 General

2.4.1.1 Exposed Fasteners

Provide corrosion resistant fasteners for soffit panels, made of coated steel, aluminum, 305 - series corrosion resisting stainless steel, or nylon capped steel compatible with the sheet panel or flashing and of a type and size recommended by the manufacturer to meet the performance requirements and design loads.

Fasteners for accessories must be the manufacturer's standard. Provide an integral metal washer matching the color of attached material with compressible sealing EPDM gasket approximately $3/32$ inch thick.

2.4.1.2 Hidden Fasteners

Provide corrosion resistant fasteners recommended by the manufacturer to meet the performance requirements and design loads.

2.4.1.3 Screws

Screws to be corrosion resistant coated steel, aluminum and/or 305 - series stainless steel being the type and size recommended by the manufacturer to meet the performance requirements.

2.4.1.4 Rivets

Rivets to be closed-end type, corrosion resistant coated steel, aluminum or stainless steel where watertight connections are required.

2.4.1.5 Attachment Clips

Fabricate clips from steel hot-dipped galvanized in accordance with [ASTM A 653/A 653M](#), Z275 G 90 or Series 300 stainless steel. Size, shape, thickness and capacity as required meeting design load criteria specified.

2.5 ACCESSORIES

2.5.1 General

All accessories must be compatible with the metal soffit panels. Sheet metal flashing, trim, metal closure strips, caps and similar metal accessories must not be less than the minimum thickness specified for the soffit panels. Exposed metal accessories/finishes to match the panels furnished, except as otherwise indicated.

2.5.2 Metal Closure Strips

Provide factory fabricated closure strips to be the same gauge thickness, color, finish and profile of the specified soffit panel.

2.5.3 Joint Sealants

2.5.3.1 Sealants and Caulking

Provide approved gun type sealants for use in hand- or air-pressure caulking guns at temperatures above 40 degrees F 4 degrees C with minimum solid

content of 85 percent of the total volume. Sealants must dry with a tough, durable surface skin which permit remaining soft and pliable underneath, providing a weather-tight joint. No migratory staining is permitted on painted or unpainted metal, stone, glass, vinyl, or wood.

Prime all joints receiving sealants with a compatible one-component or two-component primer as recommended by the soffit panel manufacturer.

2.5.3.2 Shop-Applied

Sealant for shop-applied caulking must be an approved gun grade, non-sag one component polysulfide or silicone conforming to [ASTM C 920](#), Type II, and with a curing time to ensure the sealant's plasticity at the time of field erection.

2.5.3.3 Field-Applied

Sealant for field-applied caulking must be an approved gun grade, non-sag one component polysulfide or two-component polyurethane with an initial maximum Shore A durometer hardness of 25, and conforming to [ASTM C 920](#), Type II. Color to match panel colors.

2.6 SHEET METAL FLASHING AND TRIM

2.6.1 Fabrication

Shop fabricate sheet metal flashing and trim where practicable to comply with recommendations in [SMACNA 1793](#) that apply to design, dimensions, metal, and other characteristics of item indicated. Obtain field measurements for accurate fit before shop fabrication.

Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

2.7 REPAIR OF FINISH PROTECTION

Repair paint for color finish enameled soffit panel must be compatible paint of the same formula and color as the specified finish furnished by the soffit panel manufacturer. Provide pints of repair paint matching the specified soffit panels.

PART 3 EXECUTION

3.1 EXAMINATION

Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal soffit panel supports, and other conditions affecting performance of the Work.

Examine primary and secondary wall framing to verify that structural panel support members and anchorages have been installed within alignment tolerances required by metal soffit panel manufacturer, UL, ASTM, [ASCE/SEI 7-05](#) and as required for the geographical area where construction will take place.

Examine roughing-in for components and systems penetrating metal soffit panels to verify actual locations of penetrations relative to seam locations of metal soffit panels before metal soffit panel installation.

3.2 PREPARATION

Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment. Miscellaneous framing installation, including support members and anchorage must be according to metal soffit panel manufacturer's written instructions.

3.3 SOFFIT PANEL INSTALLATION

Provide full length metal soffit panels. Anchor metal soffit panels and other components of the Work securely in place, with provisions for thermal and structural movement in accordance with MBMA MBSM.

Erect soffit panel system in accordance with the approved erection drawings, the printed instructions and safety precautions of the manufacturer.

Sheets are not to be subjected to overloading, abuse, or undue impact. Bent, chipped, or defective sheets shall not be applied.

Sheets must be erected true and plumb and in exact alignment with the horizontal and vertical edges of the building, and securely anchored.

Work is to allow for thermal movement of the soffit panel, movement of the building structure, and to provide permanent freedom from noise due to wind pressure.

Field cutting metal soffit panels by torch is not permitted.

3.3.1 Steel Soffit Panels

Use stainless-steel fasteners for exterior surfaces and galvanized steel fasteners for interior surfaces.

3.3.2 Anchor Clips

Anchor metal soffit panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

3.3.3 Metal Protection

Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal soffit panel manufacturer.

3.3.4 Joint Sealers

Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal soffit panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal soffit panel manufacturer.

3.4 FASTENER INSTALLATION

Anchor metal soffit panels and other components of the Work securely in

place, using manufacturer's approved fasteners according to manufacturers' written instructions.

3.5 FLASHING, TRIM AND CLOSURE INSTALLATION

3.5.1 General Requirements

Comply with performance requirements, manufacturer's written installation instructions, and [SMACNA 1793](#). Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams to form permanently watertight and weather resistant.

Install sheet metal work is to form weather-tight construction without waves, warps, buckles, fastening stresses or distortion, and allow for expansion and contraction. Cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades is to be performed by sheet metal mechanics.

3.5.2 Metal Flashing

Install exposed metal flashing at building corners, junctions between metal soffit and walling. Exposed metal flashing must be the same material, color, and finish as the specified metal soffit panel.

Fasten flashing at a minimum of [8 inches](#) on center, except where flashing is held in place by the same screws that secure covering sheets.

Flashing is to be furnished in at least [8 foot](#) lengths. Exposed flashing is to have [1 inch](#) locked and blind-soldered end joints, and expansion joints at intervals of not more than [16 feet](#).

Exposed flashing and flashing subject to rain penetration to be bedded in the specified joint sealant.

Isolate flashing which is in contact with dissimilar metals by means of the specified asphalt mastic material to prevent electrolytic deterioration.

Form drips to the profile indicated, with the edge folded back $1/2$ inch to form a reinforced drip edge.

3.5.3 Closures

Install metal closure strips at open ends of corrugated or ribbed pattern walls, and at intersection of soffit and wall unless open ends are concealed with formed eave flashing; and in other required areas.

3.6 WORKMANSHIP

Make lines, arises, and angles sharp and true. Free exposed surfaces from visible wave, warp, buckle, and tool marks. Fold back exposed edges neatly to form a $1/2$ inch hem on the concealed side. Make sheet metal exposed to the weather watertight with provisions for expansion and contraction.

Make surfaces to receive sheet metal plumb and true, clean, even, smooth, dry, and free of defects and projections which might affect the application. For installation of items not shown in detail or not covered by specifications conform to the applicable requirements of [SMACNA 1793](#). Provide sheet metal flashing in the angles formed where substrates abut walls, columns, or other vertical surfaces and wherever indicated and

necessary to make the work watertight.

3.7 ACCEPTANCE PROVISIONS

3.7.1 Erection Tolerances

Erect metal soffit panels straight and true with plumb vertical lines correctly lapped and secured in accordance with the manufacturer's written instructions.

3.7.2 Repairs to Finish

Scratches, abrasions, and minor surface defects of finish may be repaired with the specified repair materials. Finished repaired surfaces must be uniform and free from variations of color and surface texture.

Repaired metal surfaces that are not acceptable to the project requirements and/or Contracting Officer are to be immediately removed and replaced with new material.

3.7.3 Paint-Finish Metal Soffit Panels

Paint-finish metal soffit panels will be tested for color stability by the Contracting Officer during the manufacturer's specified guarantee period.

Panels that indicate color changes, fading, or surface degradation, determined by visual examination, must be removed and replaced with new panels at no expense to the Government.

New panels will be subject to the specified tests for an additional year from the date of their installation.

3.8 FIELD QUALITY CONTROL

3.8.1 Construction Monitoring

Make visual inspections as necessary to ensure compliance with specified requirements. Additionally, verify the following:

- a. Materials comply with the specified requirements.
- b. All materials are properly stored, handled and protected from damage. Damaged materials are removed from the site.
- c. Framing and substrates are in acceptable condition, in compliance with specification, prior to application of wall panels.
- d. Panels are installed without buckles, ripples, or waves and in uniform alignment and modulus.
- e. Side laps are formed, sealed, fastened or seam locked as required.
- f. The proper number, type, and spacing of attachment clips and fasteners are installed.
- g. Installer adheres to specified and detailed application parameters.

h. Associated flashing and sheet metal are installed in a timely manner in accord with the specified requirements.

Provide five bound copies of [Manufacturer's Field Reports](#) to the Contracting Officer two weeks prior to project close-out.

3.9 CLEAN-UP AND DISPOSAL

Clean all exposed sheet metal work at completion of installation. Remove metal shavings, filings, nails, bolts, and wires from work area. Remove grease and oil films, excess sealants, handling marks, contamination from steel wool, fittings and drilling debris and scrub the work clean. Exposed metal surfaces must be free of dents, creases, waves, scratch marks, solder or weld marks, and damage to the finish coating.

Collect and place scrap/waste materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site; transport demolished materials from government property and legally dispose of them.

-- End of Section --