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This Manu-Spec[®] utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*[™], *SectionFormat*[™] and *PageFormat*[™]. A Manu-Spec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This Manu-Spec specifies metal roof panels and accessories as manufactured by MetalTech-USA. Revise Manu-Spec section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

07 41 13
METAL ROOF PANELS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: This Section specifies metal roof panels, flashing, trim, gutters and downspouts, underlayment, and fasteners for a complete roof system.

Specifier Note: Revise Paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat and specifier's practice.

- B. Related Requirements:

Specifier Note: Include in this paragraph only those sections and documents that directly affect the work of this section. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the subparagraph below. Do not include Division 00 documents or Division 01 sections since it is assumed that all technical sections are related to all project Division 00 documents and Division 01 sections to some degree. Refer to other documents with caution since referencing them may cause them to be considered part of the Contract.

1. Section [07 71 00-Roof Specialties].
2. Section [07 92 00-Joint Sealants].

1.2 REFERENCES

Specifier Note: Paragraph below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain references paragraph when specifying products and installation by an industry reference standard. List retained standard(s) referenced in this section alphabetically. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Contract Conditions Section 01 42 00 - References may establish the edition date of standards. This paragraph does not require compliance with standard(s). It is a listing of all references used in this section. Only include here standards that are referenced in the body of the specification in PARTS 1, 2 and/or 3. Do not include references to building codes at any level.

- A. ASTM International (ASTM):
1. ASTM A240/A240M-14 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

2. ASTM A606/A606M-09a Standard Specification for Steel, Sheet, and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
3. ASTM A653/A653M-13 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
4. ASTM B69-13 Standard Specification for Rolled Zinc.
5. ASTM B209-10 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
6. ASTM B265-13ae1 Standard Specification for Titanium and Titanium-Alloy Strip, Sheet, and Plate.
7. ASTM B370-12 Standard Specification for Copper Sheet and Strip for Building Construction.
8. ASTM B506-09 Standard Specification for Copper-Clad Stainless Steel Sheet and Strip for Building Construction.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Contract Conditions and Section 01 33 00 - Submittal Procedures.

Specifier Note: See Appendix A and consult with manufacturer for complete list of possible references.

1.3 SUBMITTALS

- A. General: Submit listed submittals in accordance with Contract Conditions and Section [01 33 00 - Submittal Procedures].
- B. Product Data: Submit for specified products as follows:
 1. Manufacturer's product data, including manufacturer's SPEC-DATA product sheet.
 2. Manufacturer's standard installation details.
 3. Material Safety Data Sheets (MSDS).
 4. [].
- C. Shop Drawings: Indicate information on shop drawings as follows:
 1. Verify field dimensions.
 2. [].

Specifier Note: Samples are full-size actual products intended to illustrate the products to be incorporated into the project. Sample submittals are commonly necessary for such character as colors, textures, and other appearance issues.

- D. Closeout Submittals:
 1. Manufacturer's maintenance instructions.
 2. Warranty Documentation: Submit warranty documents specified.
 3. []
- E. Samples: Submit as follows:
 1. [Full size] [Standard] [] by [] inch ([] by [] mm)] samples of wall panel colors and finishes prepared on metal specified for panels.
 2. [].
- F. Manufacturer's maintenance instructions.
- G. Warranty Documentation: Submit warranty documents specified.
- H. []

1.4 QUALITY ASSURANCE

- A. Installer: Acceptable to the manufacturer, experienced in performing work of this section and specialized in installation of work similar to that required for this project.

1.5 DELIVERY, STORAGE & HANDLING

- A. Deliver material in accordance with Section [01 61 00 - Common Product Requirements] and in accordance with manufacturer's written instructions.
- B. Deliver materials in manufacturer's original packaging with identification labels intact and in sizes to suit project.
- C. Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by the manufacturer.

Specifier Note: Coordinate article below with Contract Conditions and with Section 01 78 36 - Warranties.

1.6 WARRANTY

- A. Warranty: Refer to Contract Conditions and Section [01 78 36 - Warranties] for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under other Contract Documents.
 - 1. Warranty Term: Two years [] commencing on date of substantial completion for defects in workmanship.

Specifier Note: Include statements specific to this section that supplement or extend warranties contained in the Contract Conditions.

- C. Special Warranty:
 - 1. Warranty Term: [] years commencing on date of substantial completion for defects in material.
 - 2. Warranty Term: [] years commencing on date of substantial completion for defects in custom finish.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal," "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.1 METAL ROOF PANELS

Specifier Note: Include in the following paragraph manufacturer's name, address, phone number, fax number, e-mail address and website URL.

- A. Manufacturer: MetalTech-USA.
 - 1. Contact: 611 Highway 74 South, Suite 900, Peachtree City, GA 30269; Telephone: (770) 486-8825; Fax: (770) 631-7689; E-mail: info@metaltch-usa.com; website: www.metaltch-usa.com.

Specifier Note: Substitution procedures must either be in the Contract Conditions or in Section 01 25 00 - Substitution Procedures. Do not include substitution procedures here.

- 2. Single Source Responsibility: Provide components and materials specified in this section from a single Manufacturer.
- 3. Substitutions: No substitutions permitted.

Specifier Note: Flat Lock Tiles can be fabricated for curved roof shapes.

- B. Flat Lock Tiles:
 - 1. Tile Shape: [Diamond] [Rectangular] [Rhomboid] [Square] [] [As detailed].
 - 2. Tile Width: [6 inch (152 mm), minimum] [24 inch (610 mm), maximum] [] inch ([] mm) [As detailed].
 - 3. Tile Length: [6 inch, minimum (152 mm)] [10 feet, maximum (3048 mm)] [] feet [] inches ([] mm) [As detailed].
 - 4. Orientation: [Horizontal] [Vertical] [Diagonal] [] [As detailed].
 - 5. Roof Slope: 3:12, minimum.

Specifier Note: Select [clip fasteners] for "Flat Lock" profile.

- 6. Installation Method: Solid deck with concealed clip fasteners.

- C. Sinusoidal Corrugated Panels:

- 1. Panel Width: [24 inch (610 mm), minimum] [40¹/₂ inch (1029 mm), maximum] [] inch ([] mm) [As detailed].
- 2. Panel Length: [4 feet (1219 mm), minimum] [20 feet (6096 mm), maximum] [] feet [] inches ([] mm) [As detailed].
- 3. Orientation: [Vertical] [Diagonal] [] [As detailed].
- 4. Corrugation Height: [7/8 inch (22 mm)].
- 5. Corrugation Repeat: [2²/₃ inch (68 mm) center-to-center].
- 6. Roof Slope: [1:12, minimum] [] [As detailed].

Specifier Note: Select [clip fasteners] for "Sinusoidal" profile.

- 7. Installation Method: Solid deck with exposed fasteners.

Specifier Note: Depths, widths and angles of trapezoid shaped corrugations can be fabricated to meet custom profiles.

D. Trapezoidal Corrugated Panels:

1. Panel Width: [6 inch (152 mm), minimum] [40¹/₂ inch (1029 mm), maximum] [[____] inch ([____] mm)] [As detailed].
2. Panel Length: [1 feet (305 mm), minimum] [20 feet (6096 mm), maximum] [[(____) feet (____) inches] ([____] mm)] [As detailed].
3. Orientation: [Vertical] [Diagonal] [____] [As detailed].
4. Corrugation Height: [³/₈ inch (9.5 mm), minimum] [6 inch (152 mm), maximum] [[____] inch ([____] mm)] [As detailed].
5. Corrugation Width: [³/₈ inch (mm), minimum based on a 65 degree angle] [40¹/₂ inch (1029 mm), maximum]
6. Corrugation Repeat: [As detailed].
7. Roof Slope: [1:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for “Trapezoidal” profile.

8. Installation Method: Solid deck with exposed fasteners.

Specifier Note: Standing seam panels can be fabricated for curved roof shapes.

E. Double-Lock Standing Seam Panels:

1. Panel Width: [6 inch (152 mm), minimum] [24 inch (610 mm), maximum] [[____] inch ([____] mm)] [As detailed].
2. Panel Length: [3 feet, minimum (76 mm)] [52 feet (15850 mm), maximum] [[(____) feet (____) inches] ([____] mm)] [As detailed].
3. Curvature: [Convex] [Concave] [____] [As detailed].
4. Orientation: [Vertical] [Diagonal] [____] [As detailed].
5. Seam Height: [1 inch (25.4 mm)] [1¹/₂ inch (38 mm)].
6. Roof Slope: [⁵/₈:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for “Double-Lock Standing Seam” profile.

7. Installation Method: Solid deck with concealed clip fasteners and mechanically seamed panel joints.

Specifier Note: Standing seam panels can be fabricated for curved roof shapes.

F. Angled-Lock Standing Seam Panels:

1. Panel Width: [6 inch (152 mm), minimum] [24 inch (610 mm), maximum] [[____] inch ([____] mm)] [As detailed].
2. Panel Length: [3 feet, minimum (76 mm)] [52 feet (15850 mm), maximum] [[(____) feet (____) inches] ([____] mm)] [As detailed].
3. Curvature: [Convex] [Concave] [____] [As detailed].
4. Orientation: [Vertical] [Diagonal] [____] [As detailed].
5. Seam Height: [1 inch (25.4 mm)] [1¹/₂ inch (38 mm)].

Specifier Note: 9:12 roof slope is recommended for installation of angled-lock standing seam in areas where snow loading is expected.

6. Roof Slope: [6:12, minimum] [9:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for Angle-Lock Standing Seam profile.

7. Installation Method: Solid deck with concealed clip fasteners and mechanically seamed panel joints.

Specifier Note: Standing seam panels can be fabricated for curved roof shapes.

G. Double-Angled-Lock Standing Seam Panels:

1. Panel Width: [6 inch (152 mm), minimum] [24 inch (610 mm), maximum] [[____] inch ([____] mm)] [As detailed].
2. Panel Length: [3 feet (76 mm), minimum] [52 feet (15850 mm), maximum] [[(____) feet (____) inches] ([____] mm)] [As detailed].
3. Curvature: [Convex] [Concave] [____] [As detailed].
4. Orientation: [Vertical] [Diagonal] [____] [As detailed].
5. Seam Height: [1 inch (25.4 mm)] [1¹/₂ inch (38 mm)].
6. Roof Slope: [6:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for Double-Angled-Lock Standing Seam profile.

7. Installation Method: Solid deck with concealed clip fasteners and mechanically seamed panel joints.

Specifier Note: Snap Lock panels can be fabricated for curved roof shapes.

H. Snap-Lock Standing Seam Panels:

1. Panel Width: [6 inch (152 mm), minimum] [24 inch (610 mm), maximum] [____] inch ([____] mm) [____] [As detailed].
2. Panel Length: [3 feet, minimum (76 mm)] [52 feet (15850 mm), maximum] [(____) feet – (____) inches] ([____] mm) [____] [As detailed].
3. Orientation: [Horizontal] [Vertical] [Diagonal] [____] [As detailed].
4. Seam Height: [1 inch (25.4 mm)] [1½ inch (38 mm)].
5. Roof Slope: [6:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for Snap-Lock profile.

6. Installation Method: Solid deck with concealed clip fasteners.
- I. Step Lock Panels:
1. Panel Width: [12 inch (305 mm), minimum] [18 inch (457 mm), maximum] [____] in ([____] mm) [As detailed].
 2. Panel Length: [20 feet (6096 mm), maximum] [(____) feet [____] inches] ([____] mm) [As detailed].
 3. Orientation: [Horizontal].
 4. Profile Height: 2 inch (51 mm).
 5. Roof Slope: [2:12, minimum] [____] [As detailed].

Specifier Note: Select [clip fasteners] for Step Lock profile.

6. Installation Method: Solid deck with tapered wood batten grid and concealed clip and fasteners [____].

Specifier Note: Select material for specified roof panel. MetalTech-USA fabricates any roof panel listed in Paragraph 2.01 with any material listed in Paragraph 2.02.

2.2 MATERIALS

- A. eZinc Titanium Zinc Alloy using quality requirements for Special High Grade (SHG) with 99.995% zinc purity or higher and defined alloy additions of 0.08–0.20% copper, 0.07–0.12% titanium and max. 0.015% aluminum according to ASTM B69-13 Architectural Rolled Zinc. Minimum tensile strength of 21.75 ksi and minimum yield strength elasticity of 15.95 ksi
1. Thickness and Weight: [24 gauge–0.028 inch (0.7 mm); 1.03 lb./ft.² (0.46 kg/m²)] [22 gauge–0.032 inch (0.8 mm); 1.18 lb./ft.² (0.5 kg/m²)] [20 gauge–0.04 inch (1 mm); 1.48 lb./ft.² (0.7 kg/m²)] [18 gauge–0.05 inch (1.27 mm); 1.77 lb./ft.² (0.8 kg/m²)] [16 gauge–0.06 inch (1.5 mm); 2.21 lb./ft.² (1 kg/m²)].

Specifier Note: Select either from standard, eZinc Rainbow[®] or custom finishes.

2. Standard Finish: [eZinc Natural] [eZinc Slate] [eZinc Graphite].
3. eZinc Rainbow: [blue] [red] [gold] [brown] [green] [black].
4. Custom Finishes: Contact MetalTech-USA for other types of finishes and colors available for eZinc wall panels and accessories.

Specifier Note: Protect+ finish is required by zinc manufacturer in addition to a ventilation mat on all portions of low-slope applications: roof panels, edge-flashing, coping, etc.

5. Backside Finish: Protect+ backside coating.
6. Special Material Warranty: Manufacturer's [20] [____] year warranty against defects in material.
7. Special Finish Warranty: Manufacturer's [____] year warranty against defects in custom finish.

Note: eZinc[®] is a registered trademark of Asturiana de Laminados S.A.

B. Copper, ASTM B370:

1. Thickness and Weight: [0.021 inch (0.5 mm); ≈16 oz. copper-1 lb./ft.² (0.45 kg/m²)] [0.028 inch (0.7 mm); ≈20 oz. copper-1.25 lb./ft.² (0.56 kg/m²)].
2. Standard Finish: Mill.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for copper roof panels and accessories.
4. Special Material Warranty: Manufacturer's [50] [____] year warranty against defects in material.
5. Special Finish Warranty: Manufacturer's [____] year warranty against defects in custom finish.

C. CopperPlus copper-clad stainless steel; ASTM B506-09:

1. Thickness and Weight: [0.016 inch (0.4 mm); ≈16 oz. copper-0.6612 lb./ft.² (0.3 kg/m²)] [0.0216 inch (0.5 mm); ≈20 oz. copper-0.8927 lb./ft.² (0.4 kg/m²)].
2. Standard Finish: Mill.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for CopperPlus roof panels and

accessories.

4. Special Material Warranty: Manufacturer's [25] [] year warranty against defects in material.
5. Special Finish Warranty: Manufacturer's [] year warranty against defects in custom finish.

Note: CopperPlus is a registered trademark of Heyco Metals, Inc.

D. Stainless Steel, ASTM A240/A240M-14, Types 304 or 316:

1. Thickness and Weight: [24 gauge-0.0235 inch (0.6 mm); 0.987 lb./ft.² (0.4 kg/m²)] [22 gauge-0.0293 inch (0.7 mm); 1.231 lb./ft.² (0.55 kg/m²)] [20 gauge-0.0355 inch (0.9 mm); 1.491 lb./ft.² (0.67 kg/m²)] [18 gauge-0.048 inch (1.2 mm); 2.016 lb./ft.² (0.9 kg/m²)].
2. Standard Finish: [Mill] [2B-Bright] [2D-Dull] [No. 3-Polished] [No. 4-Polished] [BA-Bright Annealed].
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for stainless steel roof panels and accessories.

Specifier Note: Manufacturer's special material warranty is not available for stainless steel roof panels and accessories.

4. Special Finish Warranty Available: Manufacturer's [] year warranty against defects in custom finish. Contact manufacturer.

E. Weathering Steel; ASTM A606/A606M-09a, Type 4:

1. Thickness and Weight: [22 gauge-0.028 inch (0.7 mm); 1.25 lb./ft.² (0.56 kg/m²)] [20 gauge-0.034 inch (0.8 mm); 1.5 lb./ft.² (0.7 kg/m²)] [18 gauge-0.045 inch (1 mm); 2 lb./ft.² (0.9 kg/m²)].
2. Standard Finish: Mill.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for Weathering Steel roof panels and accessories.

Specifier Note: Manufacturer's special material and finish warranties are not available for Weathering Steel roof panels and accessories.

F. Aluminum; ASTM B209, Type 3003:

1. Thickness and Weight: [0.025 inch (0.6 mm); 0.356 lb./ft.² (0.16 kg/m²)] [0.032 inch (0.8 mm); 0.456 lb./ft.² (0.2 kg/m²)] [0.04 inch (1 mm); 0.57 lb./ft.² (0.25 kg/m²)] [0.05 inch (1.2 mm); 0.713 lb./ft.² (0.32 kg/m²)] [0.063 inch (1.6 mm); 0.898 lb./ft.² (0.4 kg/m²)] [0.08 inch (2 mm); 1.139 lb./ft.² (0.5 kg/m²)] [0.125 inch (3.1 mm); 1.782 lb./ft.² (0.8 kg/m²)].
2. Standard Finish: Mill. Painted.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for aluminum roof panels and accessories.

Specifier Note: Manufacturer's special material warranty is not available for aluminum roof panels and accessories. A finish warranty is available depending on the selected paint coating; contact manufacturer.

4. Special Finish Warranty: Manufacturer's [] year warranty against defects in custom finish. A Finish Warranty is available depending on the anodized coating, contact manufacturer.

G. Aluminum; ASTM B209, Type 5005:

1. Thickness and Weight: [0.04 inch (1 mm); 0.565 lb./ft.² (0.25 kg/m²)] [0.05 inch (1.2 mm); 0.706 lb./ft.² (0.3 kg/m²)] [0.063 inch (1.6 mm); 0.889 lb./ft.² (0.4 kg/m²)] [0.08 inch (2 mm); 1.127 lb./ft.² (0.5 kg/m²)] [0.125 (3.1 mm); 1.764 lb./ft.² (0.8 kg/m²)].
2. Standard Finish: Mill. Anodized.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for aluminum roof panels and accessories.

Specifier Note: Manufacturer's Special Material Warranty is not available for aluminum roof panels and accessories.

4. Special Finish Warranty Available: Manufacturer's [] year warranty against defects in custom finish. Contact manufacturer.

H. Titanium; ASTM B265, Grade 2:

1. Thickness and Weight: [0.016 inch (0.4 mm); 0.376 lb./ft.² (0.17 kg/m²)] [0.02 inch (0.5 mm); 0.469 lb./ft.² (0.2 kg/m²)] [0.024 inch (0.6 mm); 0.562 lb./ft.² (0.25 kg/m²)].
2. Standard Finish: [Mill-G1] [Blue Nitto-No. 224 PVC film].
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for titanium roof panels and accessories.
4. Special Material Warranty: Manufacturer's [100] [] year warranty against defects in material.
5. Special Finish Warranty: Manufacturer's [] year warranty against defects in custom finish.

I. Steel; ASTM A653/A653M:

1. Thickness and Weight: [24 gauge-0.0239 inch (0.6 mm); 1 lb./ft.² (0.45 kg/m²)] [22 gauge-0.0299 inch (0.7 mm); 1.25 lb./ft.² (0.56 kg/m²)] [20 gauge-0.0359 inch (0.9 mm); 1.5 lb./ft.² (0.7 kg/m²)] [18 gauge-0.0478 inch (1.2 mm); 2 lb./ft.² (0.9 kg/m²)].
2. Standard Finish: Mill. Painted.
3. Custom Finish: Contact MetalTech-USA for other types of finishes and colors available for steel roof panels and accessories.

Specifier Note: Manufacturer's special material warranty is not available for steel roof panels and accessories.

4. Special Finish Warranty: Manufacturer's [] year warranty against defects in custom finish.

2.3 ACCESSORIES

Specifier Note: Certain materials and panels require specific Accessories, contact manufacturer.

- A. Metal Flashing and Trim: Match material, finish and color of adjacent panels.
 1. Thickness: Minimum 0.028 inch [] [As detailed].
 2. Coping: Minimum 0.040 inch [] [As detailed].
- B. Self-adhering and self-healing roofing underlayment:

Specifier Note: Blueskin™ PE 200HT is a trademark of Henry Company.

1. Recommended Material: [Henry Company; Blueskin PE 200HT] [] [As detailed].

Specifier Note: A ventilation mat is required on all portions of low-slope applications: roof panels, edge flashing, coping, etc.

- C. Ventilation/Drainage Mat: [].

Specifier Note: Enkamat™ is a trademark of Colbond, Inc.

1. Recommended Material: [Colbond Building Products; Enkamat 7010] [] [As detailed].
- D. Sub-Girts:
 1. Furring Channel: [Hat] [C] [U] [Z] [] type [As detailed].

Specifier Note: Specific materials and panels may require specific joint sealant to retain warranty. Contact manufacturer.

- E. Joint Sealant: [] [As detailed].

Specifier Note: Specific materials and panels may require specific sealing tape to retain warranty. Contact manufacturer.

- F. Seam Sealing Tape: [] [As detailed].

Specifier Note: Specific materials and panels may require a specific backer rod to retain warranty. Contact manufacturer.

- G. Backer rod: [] [As detailed].

Specifier Note: Specific materials and panels may require specific fasteners to retain warranty. Contact manufacturer.

- H. Fasteners: : [Stainless Steel] [Galvanized] [Copper] [] [As detailed].

Specifier Note: Specific materials and panels may require specific flashings and trims to retain warranty. Contact manufacturer.

- I. Flashing and Trim: [].
- J. [].

2.4 FABRICATION

- A. Fabricate and finish metal wall panels and accessories at MetalTech-USA to the greatest extent possible, by MetalTech-USA's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that conditions of substrates previously installed under other sections or contracts are acceptable for product installation in accordance with manufacturer's instructions prior to metal roof panel installation.
- B. Inform Contractor of unacceptable conditions immediately upon discovery.
- C. Proceed with installation only after unacceptable conditions have been remedied.

D. [].

Specifier Note: Specify actions required to prepare the surface, area or site for incorporation of the section's primary products. Describe requirements for exposure or removal of existing assemblies, components, products or materials.

3.2 PREPARATION

Specifier Note: Specify preparatory work required prior to installation/application/erection of primary products.

- A. Ensure structure or substrate is adequate to support metal roof panels.
- B. Prepare substrates to receive metal roof panels, flashing and trim in accordance with manufacturer's written recommendations and Section [01 71 00 - Examination and Preparation].
- C. [].

3.3 INSTALLATION

- A. Install metal roof components in accordance with manufacturer's written recommendations and Section [01 73 19 - Installation].
- B. Install metal roof components plumb and level.
- C. Accurately fit, align, securely fasten and install free from distortion or defects.
- D. [].

3.4 CLEANING

- A. Perform daily cleanup in accordance with Section [01 74 13 - Progress Cleaning].
- B. Upon completion, remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 23 - Final Cleaning].
- C. Collect recyclable waste and dispose of as directed.
- D. [].

Specifier Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Protection of surrounding areas and surfaces during application or installation is included under PART 3, Preparation. Include only statements unique to this Section.

Specifier Note: Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.

3.5 PROTECTION

- A. Protect installed product from damage during construction in accordance with Section [01 76 00 - Protecting Installed Construction].
- B. Repair or replace adjacent materials damaged by installation of metal roof panels
- C. [].

3.6 MAINTENANCE

- A. Coordinate maintenance requirement with Section [01 78 00 – Closeout Submittals] [and] Section [00 78 23 – Operation and Maintenance Data].
- B. Maintain metal wall panel system in accordance with manufacturer's instructions [and terms of warranty].
 - 1. Inspect metal wall panels and exposed accessories every [6] months to verify proper drainage, integrity of flashings and sealants, and overall condition of wall panel system.
 - 2. Clean lightly soiled areas with mild soap and water.
 - 3. Clean heavily soiled areas with light pressure washing.
 - 4. Do not use abrasive cleaners, pads, or brushes for cleaning.
- C. Provide separate maintenance contract for maintenance and repair of metal wall panel system.
- D. [].

END OF SECTION