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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 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 decorative metal 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.

05 70 00 DECORATIVE METAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Decorative Metal.

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 42 13 Metal Wall Panels].
2. Section [07 42 43 Composite Wall Panels].

1.2 REFERENCES

Specifier Note: Define terms that are unique to this section and not provided elsewhere in the contract documents. Include in this article terms that are unique to the work result specified that may not be commonly known in the construction industry.

- A. Definitions:

1. PixArt is a metal finishing technique characterized by varying perforations in the material to create a two dimensional pixelated image. Varying size perforations and their placement transmit light to produce highlights and shadows, therefore

creating the desired image or design. PixArt mechanically renders realistic images onto architectural grade metals without the use of pigmentation and can be installed both in interior and exterior applications.

2. Prisma is the burnishing of a three-dimensional representation of an image. This technique uses the dispersion of light and reflection on the surface of the metal to create a permanent image. Prisma is suitable for abstract images and patterns selected from standard Prisma patterns or custom designed to meet project requirements. Prisma finishing is mechanically rendered on architectural grade metals without the use of pigmentation and can be installed both in interior and exterior applications.

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.

B. References Standards:

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 submittable 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 has 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 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 in accordance with manufacturer's instructions.

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 DECORATIVE METAL

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@metaltech-usa.com; Website: www.metaltech-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 materials and finishes specified in this section from a single manufacturer.
3. Substitutions: No substitutions permitted.

Specifier Note: PixArt is available in all materials.

B. PixArt Metal Imaging:

1. PixArt Custom Image: [___].
 - a. Overall Image Size: [___].
 - b. Number of Panels: [___].
 - c. Location: [___].
 - d. Light Source: [___].
2. Panel Width: [12 inch (305 mm), minimum] [48 inch (1219 mm), maximum] [___] [As detailed].
3. Panel Length: [12 inch (305 mm), minimum] [120 inch (3048 mm), maximum] [___] [As detailed].

Specifier Note: PixArt imaging is available on building wall panels and custom stand-alone decorative panels with edge profiles and fasteners appropriate for intended use, or as detailed.

4. Installation Method: [Same as wall panels] [___] [As detailed].

Specifier Note: Prisma is available in all Materials.

C. Prisma Metal Finishing:

Specifier Note: Select Prisma custom or standard image.

1. Prisma Custom Image: [___].
2. Prisma Standard Image: [MTP3] [MTP6] [MTP7] [MTP8] [MTP9] [MTP10] [MTP11] [MTP12].
 - a. Overall Image Size: [___].
 - b. Number of Panels: [___].
3. Panel Width: [12 inch (305 mm), minimum] [48 inch (1219 mm), maximum] [___] [As detailed].
4. Panel Length: [12 inch (305 mm), minimum] [120 inch (3048 mm), maximum] [___] [As detailed].

Specifier Note: Prisma imaging is available on building wall panels and custom stand-alone decorative panels with edge profiles and fasteners appropriate for intended use, or as detailed.

5. Installation Method: [Same as wall panels] [___] [As detailed].

2.2 MATERIALS

- A. eIZinc 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 from standard, eIZinc Rainbow® or custom finishes.

2. Standard Finish: [eIZinc Natural] [eIZinc Slate] [eIZinc Graphite].

3. elZinc Rainbow: [blue] [red] [gold] [brown] [green] [black].
4. Custom Finishes: Contact MetalTech-USA for other types of finishes and colors available for elZinc 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: wall panels, edge-flashing, coping, etc.

5. Backside Finish: Protect+ backside coating (see Specifier Note above).
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: elZinc® 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-0.0480 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)] [0.040 inch (1 mm); 0.570 lb./ft.² (0.25 kg/m²)] [0.050 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)] [0.080 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: [0.040 inch (1 mm); 0.565 lb./ft.² (0.25 kg/m²)] [0.050 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)] [0.080 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)] [0.020 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.

J. ZCM: eZinc Zinc Alloy with copper and titanium, ASTM B69-13:

Specifier Note: Select from standard, eZinc Rainbow or custom finish.

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

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

Specifier Note: Select PE Core or FR Core.

4. PE Core: Low density polyethylene (LDPE).
5. FR Core: Fire-resistant mineral board.
6. Back Sheet: Zinc, ASTM B69-13:
 - a. Standard Finish: [e|Zinc Natural].

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 air barrier membrane, water resistant and vapor permeable:

Specifier Note: Blueskin™ VP 160 is a trademark of Henry Company.

1. Recommended Material: [Henry Company; Blueskin VP 160] [] [As detailed].

Specifier Note: A ventilation mat is required on all portions of low-slope applications: wall 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 decorative metal panel installation.
 - 1. Ensure structure or substrate is adequate to support decorative metal panels.
 - 2. Proceed with installation only after unacceptable conditions are corrected.
- B. .

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. Prepare substrates and attachments to receive decorative metal panels in accordance with manufacturer's instructions, approved shop-drawings and Section [01 71 00 - Examination and Preparation].
- B. .

3.3 INSTALLATION

- A. Install decorative metal panels in accordance with manufacturer's instructions, approved shop-drawings and Section [01 73 19 - Installation].
- B. Accurately fit, align, securely fasten and install free from distortion or defects.
- C. .

3.4 CLEANING

- A. Perform daily cleanup in accordance with Section [01 74 13 - Progress Cleaning].
- B. Upon completion, remove surplus materials, construction debris, 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 decorative metal panels.
- C. .

Specifier Note: Specify provisions for maintenance services as applicable to critical systems, equipment, and landscaping. Service agreements, if not paid in advance, should be separate from the construction agreement to avoid delay of final payment and holding the contract open for extended periods.

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 decorative metal panels in accordance with manufacturer's instructions [and terms of warranty].
 - 1. Inspect decorative metal panels every [6-months] to verify [] and] overall condition of panels.
 - 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 decorative metal panels.
- D. [].

END OF SECTION