

## SECTION 07410

### METAL ROOF AND WALL PANELS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Preformed aluminum roof panels.
- B. Preformed steel roof panels.
- C. Preformed aluminum wall panels.
- D. Preformed steel wall panels.
- E. Preformed aluminum ceiling and soffit system.
- F. Flashings, fasteners, and accessories as required for weatherproof installation.

##### 1.2 RELATED SECTIONS

- A. Section 05120 - Structural Steel: Building frame.
- B. Section 05400 - Cold Formed Metal Framing: Exterior stud wall framing system.
- C. Section 07220 - Roof Insulation.
- D. Section 07260 - Vapor Retarders.
- E. Section 07620 - Sheet Metal Flashing and Trim.
- F. Section 07900 - Joint Sealers.
- G. Section 08520 - Aluminum Windows.
- H. Section 13121 - Pre-Engineered Buildings: Building framing system.

##### 1.3 REFERENCES

- A. AA DAF-45 - Designation System for Aluminum Finishes; The Aluminum Association, Inc.
- B. AAMA 607.1 - Voluntary Guide Specification and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum; American Architectural Manufacturers Association.

- C. AAMA 608.1 - Voluntary Guide Specification and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum; American Architectural Manufacturers Association.
- D. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; American Society of Civil Engineers.
- E. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- F. ASTM A 755/A 755M - Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil Coating Process for Exterior Exposed Building Products.
- G. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- H. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction.
- I. ASTM E 283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- J. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- K. ASTM E 1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
- L. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Roof Panel System: Provide roof system with performance as specified when installed, designed in accordance with applicable codes.

- B. Provide structural performance appropriate to substrate over which roof system is installed.
- C. Wind Resistance:
  - 1. Design and size components to withstand loads caused by wind pressures as follows:
    - a. Positive pressure: \_\_\_ psf (\_\_\_ kPa) normal to panel.
    - b. Negative pressure: \_\_\_ psf (\_\_\_ kPa) normal to panel.
  - 2. Design and size components to withstand loads caused by wind pressures as specified in ASCE 7.
  - 3. Design and size components to withstand loads caused by wind pressures as specified in applicable code.
  - 4. Provide UL 90 rated system tested in accordance with UL 580.
  - 5. Provide report of test conducted in accordance with ASTM E 1592, showing that panel system and anchorage to be used will withstand these design pressures.
  - 6. Provide clip fastener pull-out test report and calculations.
- D. Maximum Deflection under Design Loads: 1/180 of span.
- E. Maximum Deflection under Design Loads: 1/240 of span.
- F. System Movement: Accommodate movements due to thermal expansion and contraction, dynamic loading, and deflection of structural support system without damage to panel system or loss of weatherproofing capability.
- G. Air Infiltration: Maximum \_\_\_ cfm per square foot when system is tested in accordance with ASTM E 283 at a static pressure of \_\_\_ psf (\_\_\_ kPa).
- H. Water Penetration: No uncontrolled water leakage when system is tested in accordance with ASTM E 331 at static water pressure of \_\_\_ psf (\_\_\_ kPa).
- I. Drainage: Provide positive drainage to exterior for moisture entering building enclosure or condensation occurring within exterior building envelope.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's Certifications:

1. Certified statement from panel manufacturer documenting manufacturer qualifications.
  2. Certified statement from panel manufacturer that panels are tension-leveled during the roll-forming process.
- C. Product Data: Manufacturer's current product specifications and installation instructions.
- D. Shop Drawings: Include small scale roof plan and elevations, as required. Show details of trim and flashing conditions, fastening and anchorage methods, weatherproofing techniques, terminations, and penetrations.
- E. Selection Samples: Submit actual metal chips with full range of colors available for Architect's selection.
- F. Verification Samples: Submit two samples of each type of metal panel required, not less than 12 inches (305 mm), and illustrating finished panel profile, color, sheen, and texture.
- G. Test Reports: Submit copies of test reports verifying:
1. Wind load performance of panels and anchors.
  2. Air infiltration performance.
  3. Water penetration performance.
  4. Coating quality.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum of 10 years of experience in factory-fabrication and roll-forming of metal roof panels.
- B. Installer Qualifications: Company specializing in the type of work required for this project, with not less than 2 years of documented experience.
- C. Pre-Installation Meeting: Convene meeting not less than one week prior to beginning installation.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with provisions of Section 01600.

- B. Order materials based on field measurements, not on construction drawings.
- C. Package panels at factory.
- D. Coordinate delivery schedule with installation schedule. Do not deliver materials of this section to project site until suitable facilities for storage and protection are available.
- E. Protect materials from damage during transit and at project site. Store under cover but sloped to provide positive drainage. Do not expose materials with strippable protective film to direct sunlight or extreme heat.
- F. Do not allow storage of other materials or allow staging of other work on installed metal panel roof system.

## 1.8 WARRANTY

- A. Comply with provisions of Section 01780.
- B. Submit manufacturer's standard 20 year finish warranty for color retention, adhesion, and freedom from chalking.
- C. Submit 2 year weathertightness and workmanship warranty from installer.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Design is based on products manufactured by ATAS International, Inc., 6612 Snowdrift Road, Allentown, PA 18106. ASD. Tel: 610-395-8445.
- B. Provide panels, anchor clips, closures, flashings, and accessories manufactured by a single manufacturer.
- C. Substitutions: Comply with procedural requirements of Section 01600.
  - 1. Requests for substitution of alternate systems must be made in writing at least 10 days prior to bid date.
  - 2. Submit complete product and test data as specified under Submittals for each proposed substitution.

## 2.2 MATERIALS

- A. Precoated Galvanized Steel Sheet: ASTM A 755/A 755M; ASTM A 653/A 653M, Structural Quality Grade 33/230, G90/ Coating Designation, precoated with Kynar 500(R)/Hylar 5000(R) finish.
- B. Aluminum Sheet: ASTM B 209, minimum yield strength 17,000 psi (117 MPa). Prefinish as specified under panel type.
  - 1. Clear Anodic Coating: AAM12C22A41 clear anodized coating complying with AAMA 607.1, 0.7 mil thickness minimum.
  - 2. Color Anodic Coating: AAM12C22A44 coating electrolytically deposited and complying with AAMA 608.1, 0.7 mil thickness minimum.
- C. Copper Sheet: ASTM B 370.
- D. Fluoropolymer Coating: Provide multi-coat PVDF Kynar 500(R)/Hylar 5000(R) finish system on exposed metal surfaces.
- E. Siliconized Polyester Coating: Manufacturer's standard coating system, factory-applied.

## 2.3 PANEL SYSTEMS

- A. Roof Panel Systems: Provide factory-formed metal panel systems with continuous interlocking panel connections and all necessary components to ensure a weathertight installation, including but not limited to ridges, hips, valleys, eaves, rakes, corners, and miscellaneous flashing.
- B. Multi-Purpose Panel System:
  - 1. Material: 0.032 inch (0.81 mm) aluminum.
  - 2. Material: 0.040 inch (1.0 mm) aluminum.
  - 3. Material: 24 gage (0.61 mm) G90 galvanized steel.
  - 4. Width: 8-inch (203 mm) panels.
    - a. Profile: Narrow Seam Batten: MPN080.
    - b. Profile: Wide Batten: MPW080.
    - c. Profile: Board Batten: MPH080.
    - d. Profile: Vee Batten: MPV080.
  - 5. Width: 12-inch (305 mm) panels.
    - a. Profile: Narrow Seam Batten: MPN120.
    - b. Profile: Wide Batten: MPW120.
    - c. Profile: 5 inch (127 mm) Board Batten: MPH125.

- d. Profile: 7 inch (178 mm) Plank Batten: MPH127.
- e. Profile: 5 inch (127 mm) Vee Batten: MPV125.
- f. Profile: 7 inch (178 mm) Vee Batten: MPV127.
- g. Profile: Vee Groove: MPS120.
- 6. Width: 16-inch (406 mm) panels.
  - a. Profile: Narrow Seam Batten: MPN160.
  - b. Profile: Wide Batten: MPW160.
  - c. Profile: 5 inch (127 mm) Board Batten: MPH165.
  - d. Profile: 7 inch (178 mm) Plank Batten: MPH167.
  - e. Profile: 5 inch (127 mm) Vee Batten: MPV165.
  - f. Profile: 7 inch (178 mm) Vee Batten: MPV167.
- 7. Panel Depth: 1-1/4 inches (32 mm).
- 8. Panel Depth: 1/2 inch (13 mm).
- 9. Panel Length: As indicated on drawings.
- 10. Panel Length: \_\_\_\_\_.
- 11. Texture: Smooth.
- 12. Texture: Stucco Embossed.
- 13. Finish: Kynar 500(R)/Hylar 5000(R).
  - a. Color: As indicated on the drawings.
  - b. Color: As selected by Architect from manufacturer's standard colors.
  - c. Color: \_\_\_\_\_.
- 14. Finish: Clear Anodized.
- 15. Finish: Bronze Anodized.
- C. Metafor Panel System (MFP120):
  - 1. Material: 0.032 inch (0.81 mm) aluminum.
  - 2. Material: 0.040 inch (1.0 mm) aluminum.
  - 3. Material: 0.050 inch (1.29 mm) aluminum.
  - 4. Panel Width: 12 inch (305 mm) coverage.
  - 5. Panel Depth: 5/8 inch (16 mm).
  - 6. Panel Length: As indicated on drawings.
  - 7. Panel Length: \_\_\_\_\_.
  - 8. Texture: Smooth.
  - 9. Texture: Stucco Embossed.
  - 10. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
  - 11. Finish: Clear Anodized.
  - 12. Finish: Bronze Anodized.
- D. Arc Metafor Panel System:
  - 1. Profile: Concave: MFV120.
  - 2. Profile: Convex: MFX120.
  - 3. Material: 0.032 inch (0.81 mm) aluminum.
  - 4. Panel Width: 12 inch (305 mm) coverage.
  - 5. Panel Depth: 5/8 inch (16 mm).

6. Panel Radius: As indicated on drawings.
  7. Panel Radius: \_\_\_\_\_.
  8. Texture: Smooth.
  9. Texture: Stucco Embossed.
  10. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
  11. Finish: Clear Anodized.
  12. Finish: Bronze Anodized.
- E. Opaline Panel System:
1. Material: 0.032 inch (0.81 mm) aluminum.
  2. Material: 0.040 inch (1.0 mm) aluminum.
  3. Material: 24 gage (0.61 mm) G90 galvanized steel.
  4. Width: 4 inch (100 mm) panels.
    - a. Profile: Flush: OPF040.
    - b. Profile: 1-inch (25 mm) Rib: OPN041.
    - c. Profile: Curved: OPV040.
  5. Width: 4-1/2 inch (114 mm) panels.
    - a. Profile: Ribbed: OPM045.
    - b. Profile: Flush with 1/2-inch (13 mm) Reveal: OPW045.
    - c. Profile: Curved with 1/2-inch (13 mm) Reveal: OPV045.
  6. Width: 6 inch (150 mm) panels.
    - a. Profile: Flush: OPF060.
    - b. Profile: 1-inch (25 mm) Rib: OPN061.
  7. Width: 6-1/2 inch (165 mm) panels.
    - a. Profile: Flush with 1/2-inch (13 mm) Reveal: OPW065.
  8. Width: 8 inch (203 mm) panels.
    - a. Profile: Flush: OPF080.
    - b. Profile: 1-inch (25 mm) Rib: OPN081.
  9. Width: 8-1/2 inch (216 mm) panels.
    - a. Profile: Flush with 1/2-inch (13 mm) Reveal: OPW085.
  10. Panel Depth: 3/4 inch (13 mm).
  11. Panel Length: As indicated on drawings.
  12. Panel Length: \_\_\_\_\_.
  13. Texture: Smooth.
  14. Texture: Stucco Embossed.
  15. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.



16. Finish: Clear Anodized.
  17. Finish: Bronze Anodized.
- F. PC Standing Seam and Batten Style System:
1. Material: 0.032 inch (0.81 mm) aluminum.
  2. Material: 0.040 inch (1.0 mm) aluminum.
  3. Material: 24 gage (0.61 mm) G90 galvanized steel.
  4. Pan Width: 11-1/4 inches (286 mm): PCP110.
  5. Pan Width: 12-5/8 inches (321 mm): PCP120.
  6. Pan Width: 15-1/4 inches (387 mm): PCP150.
  7. Pan Width: \_\_\_\_\_: PCP999.
  8. Cap Type: 1-1/4 inch (32 mm) standing seam: PCS114.
  9. Cap Type: 1-inch (25 mm) high by 1-1/2 inch (38 mm) wide batten: PCB001; adds 1-1/4 inch (32 mm) to pan dimension for on center dimension.
  10. Cap Type: 2-inch (50 mm) high by 1-1/2 inch (38 mm) wide batten: PCB002; adds 1-1/2 inch (38 mm) to pan dimension for on center dimension.
  11. Panel Length: As indicated on drawings.
  12. Panel Length: \_\_\_\_\_.
  13. Texture: Smooth.
  14. Texture: Stucco Embossed.
  15. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
  16. Finish: Clear Anodized.
  17. Finish: Bronze Anodized.
- G. Field-Lok Seam System:
1. Material: 0.032 inch (0.81 mm) aluminum.
  2. Material: 0.040 inch (1.0 mm) aluminum.
  3. Material: 24 gage (0.61 mm) G90 galvanized steel.
  4. Panel Width: 12-3/4 inches (318 mm): FLS127.
  5. Panel Width: 16-3/4 inches (425 mm): FLS167.
  6. Panel Width: 21 inches (533 mm): FLS210.
  7. Leg Height: 1-1/2 inches (38 mm).
  8. Seam Type: Single lock, field crimped.
  9. Seam Type: Double fold, field locked.
  10. Installation Clips: Fixed type: FLS900.
  11. Installation Clips: Expansion type: FLS904.
  12. Panel Length: As indicated on drawings.
  13. Panel Length: \_\_\_\_\_.
  14. Texture: Smooth.
  15. Texture: Stucco Embossed.
  16. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.

- b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
  - 17. Finish: Clear Anodized.
  - 18. Finish: Bronze Anodized.
- H. Monarch Roof Panels:
  - 1. Material: 0.032 inch (0.81 mm) aluminum.
  - 2. Material: 0.040 inch (1.0 mm) aluminum.
  - 3. Material: 0.050 inch (1.29 mm) aluminum.
  - 4. Material: 24 gage (0.61 mm) G90 galvanized steel.
  - 5. Material: 22 gage (0.76 mm) G90 galvanized steel.
  - 6. Material: 16 ounce (0.56 mm) copper.
  - 7. Material: 20 ounce (0.69 mm) copper.
  - 8. Panel Style: Batten.
    - a. Width: 12 inches (305 mm): MRB120.
    - b. Width: 16 inches (406 mm): MRB160.
    - c. Panel depth: 2 inches (50 mm).
    - d. Provide stiffening ribs.
    - e. Without stiffening ribs.
  - 9. Panel Style: Step Seam.
    - a. Width: 12 inches (305 mm): MRC120.
    - b. Width: 16 inches (406 mm): MRC160.
    - c. Panel depth: 2-1/2 inches (63 mm).
    - d. Provide stiffening ribs.
    - e. Without stiffening ribs.
  - 10. Panel Style: Dutch Seam.
    - a. Width: 11 inches (279 mm): MRD110.
    - b. Width: 15 inches (381 mm): MRD150.
    - c. Width: 19-1/4 inches (489 mm): MRD194.
    - d. Panel depth: 1-1/2 inches (38 mm).
    - e. Provide stiffening ribs.
    - f. Without stiffening ribs.
  - 11. Panel Length: As indicated on drawings.
  - 12. Panel Length: \_\_\_\_\_.
  - 13. Texture: Smooth.
  - 14. Texture: Stucco Embossed.
  - 15. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
  - 16. Finish: Clear Anodized.
  - 17. Finish: Bronze Anodized.
- I. ScanRoof Tile Panel System - SCP163:
  - 1. Material: 24 gage (0.61 mm) G90 galvanized steel.
  - 2. Panel Size: 13 feet, 10 inches (4216 mm) by 21 inches (533 mm).

3. Exposure: 13 feet, 2 inches (4013 mm) by 16-1/2 inches (419 mm).
  4. Texture: Scalloped tile configuration, 7-7/8 inch (200 mm) repeat pattern.
  5. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
- J. Techo Tile System - SCT400:
1. Material: 0.032 inch (0.81 mm) aluminum.
  2. Material: 24 gage (0.61 mm) G90 galvanized steel, stucco embossed.
  3. Panel Width: 42 inches (1067 mm) overall, 40 inches (1016 mm) exposed.
  4. Panel Length: \_\_\_\_\_.
  5. Panel Depth: 2-1/8 inches (54 mm).
  6. Pattern: Tile pattern, 0.576 inch (14.6 mm) step per tile.
  7. Texture: Traditional (matte).
  8. Texture: Glazed (smooth).
  9. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
- K. Granutile System - HST144:
1. Material: 26 gage (0.45 mm) G90 galvanized steel.
  2. Panel Width: 16 inches (406 mm), 14-1/2 inches (368 mm) exposed.
  3. Panel Length: 46 inches (1168 mm), 43-3/4 inches (1111 mm) exposed.
  4. Pattern: Tile pattern, 7 tile repeat.
  5. Texture: Granular.
  6. Finish: Stone granules coated with clear polymer.
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's 6 standard colors.
    - c. Color: \_\_\_\_\_.
- L. Standing Seam Shingle System:
1. Material: 28 gage (0.47 mm) galvanized steel.
  2. Material: 16 oz/sf (0.56 mm) copper, natural color.
  3. Panel Width: 16 inches (406 mm).
  4. Panel Length: 36 inches (915 mm): HSS163.
  5. Panel Length: 60 inches (1524 mm): HSS166.
  6. Texture: Smooth.
  7. Finish: Ceram-a-Star(tm)950.

- a. Color: As indicated on the drawings.
  - b. Color: As selected by Architect from manufacturer's 6 standard colors.
  - c. Color: \_\_\_\_\_.
- M. Permashake System - HSP106:
- 1. Material: 28 gage (0.47 mm) G90 galvanized steel.
  - 2. Panel Width: 10 inches (254 mm).
  - 3. Panel Length: 60 inches (1524 mm).
  - 4. Texture: Simulated shake.
  - 5. Finish: Ceram-a-Star(tm)950.
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's 4 standard colors.
    - c. Color: \_\_\_\_\_.
- N. CastleTop System - HSC160:
- 1. Material: 0.032 inch (0.81 mm) thick aluminum.
  - 2. Material: 16 oz/sf (0.56 mm) copper, natural color.
  - 3. Material: 0.020 inch (0.51 mm) thick zinc, natural color.
  - 4. Panel Size: 16 inches (406 mm) by 16 inches (406 mm), 14 inches (355 mm) by 14 inches (355 mm) exposed.
  - 5. Texture: Smooth.
  - 6. Texture: Embossed.
  - 7. Finish: Kynar 500(R)/Hylar 5000(R).
    - a. Color: As indicated on the drawings.
    - b. Color: As selected by Architect from manufacturer's standard colors.
    - c. Color: \_\_\_\_\_.
- O. Belvedere Wall Panel System:
- 1. Profile: Span Wall - BWS240.
    - a. Material: 0.032 inch (0.81 mm) aluminum, embossed.
    - b. Material: 0.040 inch (1.0 mm) aluminum, smooth.
    - c. Material: 0.040 inch (1.0 mm) aluminum, embossed.
    - d. Material: 0.050 inch (1.29 mm) aluminum, smooth.
    - e. Material: 0.050 inch (1.29 mm) aluminum, embossed.
    - f. Material: 24 gage (0.61 mm) G90 galvanized steel, embossed.
    - g. Panel width: 24 inches (610 mm).
    - h. Panel depth: 4 inches (100 mm).
  - 2. Profile: Box Panel - BWB360.
    - a. Material: 0.032 inch (0.81 mm) aluminum, embossed.
    - b. Material: 0.040 inch (1.0 mm) aluminum, smooth.

- c. Material: 0.040 inch (1.0 mm) aluminum, embossed.
- d. Material: 0.050 inch (1.29 mm) aluminum, smooth.
- e. Material: 0.050 inch (1.29 mm) aluminum, embossed.
- f. Panel width: 36 inches (915 mm).
- g. Panel depth: 4 inches (100 mm).
- 3. Profile: Rib Panel - BWR360.
  - a. Material: 0.032 inch (0.81 mm) aluminum, smooth.
  - b. Material: 0.032 inch (0.81 mm) aluminum, embossed.
  - c. Material: 0.040 inch (1.0 mm) aluminum, smooth.
  - d. Material: 0.040 inch (1.0 mm) aluminum, embossed.
  - e. Material: 0.050 inch (1.29 mm) aluminum, smooth.
  - f. Material: 0.050 inch (1.29 mm) aluminum, embossed.
  - g. Material: 24 gage (0.61 mm) G90 galvanized steel, smooth.
  - h. Material: 24 gage (0.61 mm) G90 galvanized steel, embossed.
  - i. Material: 22 gage (1.0 mm) G90 galvanized steel, smooth.
  - j. Material: 22 gage (1.0 mm) G90 galvanized steel, embossed.
  - k. Panel width: 36 inches (915 mm).
  - l. Panel depth: 1-1/2 inches (38 mm).
- 4. Panel Length: \_\_\_\_\_.
- 5. Finish: Kynar 500(R)/Hylar 5000(R).
  - a. Color: As indicated on the drawings.
  - b. Color: As selected by Architect from manufacturer's standard colors.
  - c. Color: \_\_\_\_\_.
- P. Design Wall System:
  - 1. Material: 0.032 inch (0.81 mm) aluminum.
  - 2. Material: 0.040 inch (1.0 mm) aluminum.
  - 3. Material: 0.050 inch (1.29 mm) aluminum.
  - 4. Material: 24 gage (0.61 mm) G90 galvanized steel.
  - 5. Panel Width: 12 inches (305 mm).
  - 6. Panel Style: Provide stiffening ribs.
  - 7. Panel Style: Without stiffening ribs.
    - a. Panel depth: 1-3/4 inches (44 mm): DSF120.
    - b. Panel depth: 1-1/8 inches (29 mm): DWF120.
  - 8. Panel Profile: Board type, with adjacent recess and stiffening ribs.
  - 9. Panel Profile: Board type, with adjacent recess and without stiffening ribs.

- a. Panel depth: 1-3/4 inches (44 mm): DSH120.
- b. Panel depth: 1 inch (25 mm): DWH120.
- c. Board width: 6 inches (152 mm).
- d. Board width: 7 inches (178 mm).
- e. Board width: 8 inches (203 mm).
- f. Board width: 9 inches (229 mm).
- g. Board width: 10 inches (254 mm).
- h. Board width: 11 inches (279 mm).
- 10. Panel Length: As indicated on drawings.
- 11. Panel Length: \_\_\_\_\_.
- 12. Texture: Smooth.
- 13. Texture: Stucco Embossed.
- 14. Finish: Kynar 500(R)/Hylar 5000(R).
  - a. Color: As indicated on the drawings.
  - b. Color: As selected by Architect from manufacturer's standard colors.
  - c. Color: \_\_\_\_\_.
- 15. Lanced: Provide vented panels where indicated.
- Q. Linear Ceiling System:
  - 1. Style: Round edge: LCR.
  - 2. Style: Box edge: LCB.
  - 3. Texture: Smooth.
  - 4. Panel Width: 4 inch (100 mm) nominal.
  - 5. Panel Width: 8 inch (203 mm) nominal.
  - 6. Panel Width: 12 inch (305 mm) nominal.
  - 7. Panel Depth: 5/8 inch (16 mm).
  - 8. Material: 0.032 inch (0.81 mm) aluminum.
    - a. Finish: Kynar 500(R)/Hylar 5000(R).
    - b. Finish: Clear anodized.
    - c. Finish: Bronze anodized.
    - d. Color: As indicated on the drawings.
    - e. Color: As selected by Architect from manufacturer's standard colors.
    - f. Color: \_\_\_\_\_.
  - 9. Material: 0.020 inch (0.51 mm) aluminum.
  - 10. Material: 0.025 inch (0.64 mm) aluminum.
    - a. Finish: Siliconized polyester coating.
    - b. Color: As indicated on the drawings.
    - c. Color: As selected by Architect from manufacturer's standard colors.
    - d. Color: \_\_\_\_\_.
  - 11. Closing Strip: Flush (with LCR Series only).
  - 12. Closing Strip: Recessed.
- R. Wind-Lok(tm) Soffit Panel System:
  - 1. Material: 0.019 inch (0.48 mm) aluminum, smooth.
  - 2. Material: 0.024 inch (0.61 mm) aluminum, smooth.
  - 3. Panel Style: Smooth: WLS120.

4. Panel Style: Vented: WLV120.
5. Panel Width: 12 inches (305 mm).
6. Panel Depth: 7/16 inch (11 mm).
7. Panel Length: \_\_\_\_\_.
8. Finish: Siliconized polyester.
  - a. Color: As indicated on the drawings.
  - b. Color: As selected by Architect from manufacturer's standard colors.
  - c. Color: \_\_\_\_\_.

#### 2.4 ACCESSORIES

- A. Provide formed accessories of same gage and finish as the primary panel system, unless otherwise indicated on the drawings.
- B. Anchor Clips: Concealed type, designed to allow for thermal movement of panels.
- C. Sealants: As specified in Section 07900.
- D. Fasteners: As recommended by manufacturer for project conditions and panel type.

#### 2.5 FABRICATION

- A. Panels: Factory-fabricate all panels with integral lock and seam design.
- B. Fabricate panels up to 70 feet (21 m) long in one piece without transverse seams. Panels over 70 feet (21 m) long may be fabricated with seams; use manufacturer's standard end lap details.
- C. Factory-fabricate trim and flashing components in minimum 12 foot (3.65 m) lengths, with allowance for thermal movement in joint design.
- D. Form all components true to shape, accurate in size, square and free from distortion or defects. Cut panels to precise lengths indicated on approved shop drawings.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Inspect substrates to verify that they are in proper condition, spaced correctly, plumb, and are ready to receive panels and accessories.
  - 1. Notify the Architect in writing if substrates are not suitable for application of panel system.
  - 2. Do not proceed with installation until substrates are acceptable.
- B. Verify actual dimensions in field prior to ordering materials.

### 3.2 INSTALLATION

- A. Install metal panels and accessories in strict accordance with manufacturer's instructions and applicable codes.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint.
- C. Fasten panels to structural supports with concealed anchor clips, except where fixed attachment points are indicated. Install panels plumb, level, and true to line.
- D. Fully interlock panels with adjacent panels; apply sealants as recommended by panel manufacturer to achieve weathertight installation.
- E. Install roof panels with no transverse seams.
- F. Do not allow shavings, metal dust, or chips to fall on panels.

### 3.3 ADJUSTING AND CLEANING

- A. Remove all protective masking from material immediately after installation.
- B. Touch up minor abrasions with matching paint provided by panel manufacturer. Remove and replace panels that cannot be satisfactorily touched up.
- C. Sweep and remove chips, shavings, and dust from roof on a daily basis during installation period. Leave installed work clean, free from grease, finger marks and stains.
- D. Upon completion of installation, remove scraps and debris from project site.



### 3.4 PROTECTION

- A. Provide protection as required to assure that completed work of this section will be without damage or deterioration at date of substantial completion.

END OF SECTION