

SECTION 07 40 00
METAL ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal roofing panels of the following types:
 - 1. Alexa Roofing Panels
 - 2. Jakko Roofing Panels

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.

1.3 REFERENCES

- A. ASTM E72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
- B. ASTM E-108 - Standard Test Methods for Fire Tests of Roof Coverings.
- C. ASTM G-154 - Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials.
- D. ICC-ES AC166, Paragraph 4.2 - Metal Roofing (previously ICBO AC166).
- E. UL 580 - Tests for Uplift Resistance of Roof Assemblies.
- F. UL 1897 - Uplift Tests for Roof Covering Systems.
- G. UL 2218 - Impact Resistance of Prepared Roof Covering Materials.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation method.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5-year experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2-year experience installing similar products.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Rebuild mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver product no more than 3 months before installation. Inside storage is recommended.
- B. Handling: Handle materials to avoid damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: ecoMetals, Co. which is located at: 10 N Martingale Rd, suite 400, Schaumburg, IL 60173; phone: 773-599-3355, email: info@ecometals.net, website: www.ecometals.net
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 METAL ROOFING

- A. Metal Roofing Panels:
 - 1. Product: Alexxa/Jakko Metal Roofing Panels as manufactured by ecoMetals, Co.
 - 2. Physical Characteristics:
 - a. Panel Size: Width: 46-1/4 (1175 mm) including a 3" side lap. The length of the tile section is 13 3/4" and the width of the "wave" is 7 1/4". The height of the panel is 1 3/4". Panel lengths are cut to customer specification and range from 38" to 20' portable length.
 - 3. Finish: Sherwin-Williams Fluoropon PVDF or WeatherXL System. Finish colors are Energy Star listed.
 - a. Color: Bronze
 - b. Color: Musket Brown
 - c. Color: Terra Cotta
 - d. Color: Cherry Red
 - e. Color: Graphite
 - f. Color: Black
 - g. Custom colors are available for quantities 20,000 square feet and more
 - 4. Performance:
 - a. Dry Film Thickness: ASTM D 5796
 - b. Topside Color: ASTM D 1729
 - c. Specular Gloss: ASTM D 523
 - d. Pencil Hardness: ASTM D 3363
 - e. Solvent Resistance: ASTM D 5402
 - f. Cross-Hatch Adhesion: ASTM D3359

- g. Impact Resistance: ASTM D 2794
 - h. T-Bend Flexibility: ASTM D 4145
 - i. Humidity Resistance: ASTM D 2247
 - j. Cleveland Condensing: ASTM D 4585
 - k. Water Immersion Resistance: ASTM D 870
 - l. Salt Spray: ASTM B 117
 - m. Chemical Resistance: ASTM D 1308
 - n. Acid Rain Resistance (Kesternich): ASTM G 87
 - o. Accelerated Weathering: ASTM G151 and G154
 - p. Color Retention, Florida Exposure: ASTM D 2244
 - q. Chalking Resistance: ASTM D 4214
 - r. Abrasion Resistance: ASTM D
 - s. 968 Flame Spread Rating: ASTM E 84
 - t. Fire Resistance: UL 790/ASTM E 108 Class A Fire Rating
 - u. Impact Resistance: UL2218 Grade 4 Steel: ASTM A 792
 - v. Coil Coating: ASTM A 755
5. Trim Profiles:
- a. Eave
 - b. Endwall Flashing type B
 - c. Endwall Flashing type S
 - d. Gable
 - e. High Peak
 - f. Pitch Transition
 - g. Ridge/Hip Cap
 - h. Sidewall Flashings type B
 - i. Sidewall Flashings type S
 - j. Valley
6. Accessories:
- a. Ridge Vent Tape
 - b. Universal Foam Closure

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 METAL TILE ROOFING INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install metal panels on top of up to 2 layers of existing shingles as applicable per local building requirements.
- C. Installed on a minimum 1/2 inch (13 mm) CDX plywood roof deck. Synthetic underlayment shall be installed prior to the installation of metal roofing products; or refer to local building code. To achieve a Class A fire rating, install 1/4" or 1/2" thick Georgia Pacific DensDeck roof boards

- D. Prior to installing the underlayment, clear the roof deck of any debris or protrusions that could puncture the protective membrane. Installing roof panels on uneven surfaces may cause distortion or deflection on the metal surface. Surface wave in the material is not cause for rejection of the product.
- E. Accessories such as Gable Trim, Valley, Sidewall Flashing, Universal Foam Closure must be installed before the panels. Pitch Transition and Eave Trim may also be installed before the panels.
- F. Alexxa and Jakko Roofing Panels are installed vertically. The panel is installed with metal fasteners long enough to penetrate the solid substrate. Installation manuals or hands-on training via seminars are available through ecoMetals, Co. and www.ecometals.net website. Ridge ventilation is recommended.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION