STANDARD PANEL SPECIFICATIONS

1.01 SUMMARY

 A. Section includes: all material to complete prefinished, prefabricated wall and roof panel system and accessories including flashing contiguous with the panels.

1.02 REFERENCES

 A. American Society for testing and materials

 1. ASTM A 653 Steel Sheet, zinc coated by the hot dip process

 2. ASTM A 792 Steel Sheet, Aluminum-Zinc Alloy Coated by the Hot Dip Process

 3. ASTM B 209 Aluminum and Aluminum Alloy Sheet and Plate

 B. Aluminum Association

 1. Aluminum Design Manual

 C. Metal Construction Association (MCA)

 1. Preformed Metal Wall Guidelines

1.03 SYSTEM DESCRIPTION

 A. Performance requirements: Provide factory formed, pre-finished, lappable, exposed fastener, structural, ribbed metal roof and wall system, that has been

pre-tested and certified by manufacturer to comply with specified requirements under installed conditions.

1. The metal roofing/siding system including required trim members shall

 meet the specified for snow and wind loads.

B. Structural Requirements: Engineer panels for structural properties in accordance with latest edition of American Iron and Steel Institute’s Cold Formed Steel Design Manual using effective width concept and Aluminum Association’s Aluminum Design Manual

1.04 SUBMITTALS

 A. Product Data: submit manufacturer’s specifications, standard profile sheet, product data brochure, and finish warranty.

 B. Shop Drawings: shop drawings showing the layout of panels, screws, and sections of flashing shall be submitted for approval prior to fabrication. Drawings shall contain material type and metal thickness, and finish.

C. Samples: Submit samples showing proposed metal gauge, panel profile, and specified finish.

1.05 QUALITY ASSURANCE

 A. Panel manufacturer shall have a minimum of 10 years of experience in manufacturing panels for roofing and siding in a permanent stationary indoor facility.

1.06 DELIVERY, STORAGE, AND HANDLING

 A. Panels and flashing shall be protected and properly packaged to protect against transportation damage in transit to the job site.

 B. Upon delivery, care must be exercised in the unloading, stacking, moving, and storing panels and flashing to prevent twisting, bending, scratching, or denting.

C. Store panels and flashings in a safe, dry environment under a waterproof covering to prevent water damage. Allow for adequate ventilation to prevent condensation. Use a breathable canvas or waterproof paper cover. Do not use plastic, which causes sweating or condensation.

1.07 WARRANTIES

A. Panel manufacturer shall provide a twenty (20) year warranty on the painted finish covering chalking, cracking, chipping, blistering, peeling, flaking, and fading

B. Applicator shall furnish written warranty for a two year period from the date of substantial completion of panels covering repairs required to maintain panels and flashing in a watertight condition.

2.01 PRODUCT DESCRIPTION

A. Roof and wall panels to be supplied by RPS Engineering, 1300 Crispin Drive. Elgin, IL 60123. 847-931-1950

B. Panel height and shape shall be determined by loading and desired shape appropriate for the project.

 C. Panels shall be directly fastened to substrate.

 D. The panels can have an overlapping sidelap feature.

2.02 PRODUCT SUBSTITUTIONS

 A. Requests to use alternate systems shall be submitted in writing to the project designer at least 10 days prior to bid. Request shall demonstrate proposed substitution meets or exceeds specified performance requirements. Descriptive data must be included in the submittal request.

 B. Manufacturer listed in this section is prequalified. Substitution of another manufacturer’s products for those specified shall not be allowed at anytime during construction.

2.03 MATERIALS AND FINISHES

 A. Panel materials

1. 24, 22, 20 gauge Grade 50, 50 ksi yield strength structural steel with G90 hot dipped galvanized, or aluminum-zinc alloy coating, both conforming to ASTM A 653 or ASTM A 792.

2. 0.032, 0.040, or 0.050”, 3004-H36 or equivalent aluminum alloy conforming to ASTM B 209

 B. Texture: Panels shall be smooth.

 C. Finish: Refer to manufacturer’s standard color chart to determine appropriate finish and color. All panels will receive a factory applied finish coat conforming to the following:

 1. Metal preparation: all metal shall have the surfaces carefully prepared 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 an acid rinse, and thorough drying.

 2. Prime coating: a base coat of epoxy paint, specifically formulated to interact with the top coat, shall be applied to the prepared surfaces by roll coating to a dry film thickness of 0.20 +/- 0.05 mils. The prime coat shall be oven cured prior to the application of the finish coat.

 3. Exterior coating: a finish coating shall be applied over the primer by roll coating to a dry film thickness of 0.80 +/- 0.050 mils. This finish coating shall be oven cured.

 4. Interior coating: a wash coat shall be applied on the reverse side over the primer by roll coating to a dry film thickness of 0.30 +/- 0.050 mils for a total dry film thickness of 0.50 +/- 0.10 mils. The wash coat shall be oven cured.

2.04 ACCESSORIES

 A. Flashing & trim

 1. All flashing and trim shall be the same material, gauge, and finish as the gallery panels and fabricated in accordance with standard SMACNA procedure and details.

 B. Fasteners

 1. All screws shall be zinc plated steel. They shall have a combination steel and EPDM washer.

 2. Screws for panel to angles shall be of sufficient length to penetrate the supporting member.

 3. Screws for flashing and sidelaps shall be #14 HHA x ¾” sheet metal stitch screws. All accessories, flashing and sidelaps shall be fastened at 12” centers.

 C. Caulking

 1. Exposed caulking shall be polyurethane.

 2. Concealed caulking shall be gun grade butyl sealant or butyl sealant tape.

 3. All caulking or sealing shall be done in a neat manner with excess caulking or sealant removed from exposed surfaces.

 D Closures

 1. Closures shall be pre-molded polyethylene to match the profile of the corrugated panel and shall be in lengths as supplied by the panel manufacturer.

2.05 FABRICATION

 A. Forming Panels

 1. Panels shall be roll formed on a stationary industrial type rolling mill to gradually shape the sheet metal.

 B. Curving panels

 1. Curving shall be done by the same panel manufacturer to the required radius as shown on the drawings.

2.06 SOURCE QUALITY

 A. Source quality: Obtain metal panels, curving and accessories from a single manufacturer

 B. Fabrication Tolerances

 1. Rib Height-as required per loading requirements

 2. Panel Shearing length +/- ¼”

2.07 EXAMINATION

 A. Installer shall:

 1. Inspect support structure to verify that they comply with drawing dimensions for sizes and placement.

 2. Report variations and potential problems in writing to the contractor.

2.08 INSTALLATION

 A. Conform to the standard set forth in the approved shop drawings detailed for the project.

 B. Install panels plumb, level, and straight with the ribs parallel.

 C. Install panel system so it is watertight.

 D Apply sealant tape or caulking as necessary at flashing and panel joints to prevent water penetration.

2.09 CLEANING

 A. Dispose of excess materials and debris from job site.

 B. Remove filings, marks or excessive sealants from the panels.