

076100 – STANDING SEAM METAL ROOFING AND ACCESSORIES

1. SUMMARY

This section identifies the standing seam metal roofing to replace the slate roofing on the main building. In addition, this section addresses the venting, fasteners, finishes, associated sealants, and best practices for installation. Note that the clip spacing on the south side of the roof will need to be designed to support future solar panels.

Related Sections:

061600 Rough Carpentry
072500 Envelope Control Layers

2. SUBMITTAL PROCESS

The following are required as part of the submittal for these products:

Submittal	Req.	Specifics
Shop Drawings	X	<ul style="list-style-type: none">- Fabrication and installation layouts of flashing, trim, fasteners, cleats, clips and other attachments including plans, details of roof penetrations, edge conditions, and vented ridge cap.- Clip spacing plan, for regular roof and roof with future solar.
Product Cut Sheets	X	<ul style="list-style-type: none">- For each listed product including individual components and finishes.- Roofing contractor installation authorization
Product Samples	X	Factory applied color samples of metal panel, snow guard
Mock-ups		
Closeout submittals	X	Warranty Information and maintenance manuals.

3. PRODUCTS

A. METALLIC-COATED STEEL SHEET

- i. Manufacturer: Englert or approved equal.
- i. Product: 24 gauge aluminum-Zinc Alloy-Coated Steel Sheet.
- ii. Size and Finish: Double lock standing seam, max. 20" wide finished panels, smooth, flat.
- iii. Performance: Assemblies to comply with UL 580, Class 90 wind-uplift resistance.
- iv. Finish: Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping
- v. Color: As selected from the manufacturer's full range.

- vi. Warranty: Provide twenty (10) year Warranty on finish, two (2) year labor and materials warranty and twenty (20) year warranty for weather tightness from date of Substantial Completion.
- B. SELF-ADHERING SHEET UNDERLAYMENT
 - i. Manufacturer: W. R. Grace or approved equal.
 - ii. Product: Grace Ice and Water Shield or approved equal.
 - iii. Dimension: 3 foot wide rolls.
 - iv. Locations: At all valleys, headwalls, sidewalls, and eaves and where roofs meet adjacent building elements. Provide one 3'-0" band at all eaves.
- C. HI-PERFORMANCE ROOFING UNDERLAYMENT
 - i. Manufacturer: RKW Finland or approved equal.
 - ii. Product: RoofTopGuard II, 5 ply polyethylene and polypropylene laminated vapor barrier roofing underlayment.
 - iii. Size and Finish: 60" wide x 200' rolls.
 - iv. Location: Under standing-seam metal roofing except where Ice and Water Shield is specified.
 - v. Warranty: Fifty (50) year limited material warranty.
- D. SHEET METAL FLASHINGS AND TRIM
 - i. Manufacturer: Use 24 gauge sheet metal to match roofing panels.
 - ii. Product: Drip edge, rake and eave locations, chimney flashing, vented ridge cap, and miscellaneous flashings and trim, of same sheet metal as roof panels.
- F. WALL TO ROOF VENT
 - i. Manufacturer: Air Vent Inc. or approved equal.
 - ii. Product: Air Vent Inc. Flash Filter Vent or approved equal.
 - iii. Size: Per manufacturers recommendation to provide the necessary free flow of air for the attic square footage.
 - iv. Color: To be chosen by Architect from the full range of manufacturers colors.
 - iii. Location: Shed roof to wall intersection.
- E. GENERAL MISCELLANEOUS MATERIALS
 - i. Product: Provide materials and types of fasteners, protective coatings, separators, sealants, ridge vent, and other miscellaneous items as required for a complete roofing system and as recommended by fabricator for sheet metal roofing.
- F. PIPE BOOT AT PENETRATIONS
 - i. Product: Premolded, EPDM or rubber pipe collar with flexible aluminum ring bonded to base.
- G. SNOW GUARDS
 - i. N/A

- H. GUTTER
 - i. N/A

4. EXECUTION & QUALITY CONTROL

Store and install according to manufacturer's written instructions unless specifically noted otherwise.

A. QUALITY ASSURANCE

- i. Fabricator Qualifications: Provide record of successful in-service performance.
- ii. UL-Certified Roll-Forming Equipment: Install on-site, roll-formed sheet metal roofing fabricated from UL-certified equipment to comply with equipment manufacturer's written instructions for UL wind-uplift resistance class indicated. Provide sheet metal roofing of full length from eave to ridge unless otherwise restricted by on-site or shipping limitations.
- iii. Preinstallation Conference:
 - a. Meet with General Contractor, Owner Representative, Architect, and sheet metal roofing installer. Review and finalize construction schedule; availability of materials, methods and procedures; flashing, details and roof penetrations; access and fall protection requirements during and after roof installation.

B. EXAMINATION AND PREPARATION

- i. Examine substrates, areas, and conditions, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the Work.
- ii. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
- iii. Clean substrates of substances harmful to installation, including removing projections capable of interfering with panel attachment.

C. INSTALLATION

- i. Standing-Seam Sheet Metal Roofing: Fasten sheet metal roofing to supports with concealed clips at each standing-seam joint at location, at spacing, and with fasteners recommended by manufacturer of portable roll-forming equipment.
- ii. The standing seam shall be equidistant and shall align for corners, hips, valleys, mullions, and columns in accordance with architectural design parameters as shown on the drawing.
- iii. All panels shall be continuous from ridge to eaves with no horizontal end laps.
- iv. End lap all flashing and trim at least 3".
- v. Pipe Flashing: Form flashing around pipe penetration and sheet metal roofing. Fasten and seal to sheet metal roofing as recommended by SMACNA.
- vi. The ridge vent at the main roof and the wall to roof vent at the shed roof must be sized to be balanced (in terms of free flow of air) with the air intake of the corresponding soffit venting systems.

D. CLEANING

- i. Clean off excess sealants and clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- ii. Touch up all minor scratches and spots.

END SECTION 076100 – SHEET METAL ROOFING AND ACCESSORIES