

NRM-5000/6000

ARCHITECTURAL ROOFING

January 2012



Effective

PART I GENERAL

1.01 Section Includes

- A. Section includes: all material, labor, and equipment to complete installation of 5000/6000 as shown on the drawings and herein specified. Include all copings, gutters, and flashings contiguous with the panels.
- B. Related Sections
 - 1. Structural Steel Supports: Section 05100
 - 2. Steel Joists: Section 05200 or 05400
 - 3. Flashing and Sheet metal: Section 07600

SUBMITTALS

- A. Product Data: submit manufacturer's specifications, standard profile sheet, and product data brochure and finish warranty.
- B. Shop Drawings: shop drawings showing roof plan with layout of panels, attachments, underlayment and sections of each flashing/trim condition shall be submitted for approval prior to fabrication. Drawings shall contain material type, metal thickness and finish. Drawings shall distinguish between factory and field fabrication.
- C. Samples:
 - 1. Submit sample 12" long x full width panel, showing proposed metal gauge, seam profile and specified finish.
 - 2. Submit manufacturer's standard colors for Architect's selection.
 - 3. Provide color chip of representative color for Architect's/Engineer's acceptance.

QUALITY ASSURANCE

- A. Panel manufacturer shall have a minimum of ten (10) years of experience in manufacturing architectural roofing in a permanent stationary indoor facility.
- B. Panel installer shall have a minimum of two (2) years' experience in the installation of architectural standing seam metal roofing.

DELIVERY, STORAGE, and HANDLING

- A. Panels and flashings shall be protected and properly packaged to protect against transportation damage in transit to the jobsite.
- B. Upon delivery, exercise care in unloading, stacking, moving, storing, and erecting panels and flashings 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. Panels and flashings with strippable film shall not be stored in direct sunlight.
- D. Upon installation immediately remove strippable film from panels and flashings. Protect panels and flashings from foot traffic and from all other trades.

PROJECT CONDITIONS

- A. Field dimensions shall be taken prior to fabrication to verify jobsite conditions.
- B. Minimum recommended pitch for this panel is 3:12.
- C. Maximum panel length is 55' (contact the factory for longer panels).

WARRANTIES

- A. Panel manufacturer shall provide a forty (40) year warranty on the paint finish covering chalking, cracking, checking, chipping, blistering, peeling, and flaking.

PART II PRODUCTS

PRODUCT DESCRIPTION

- A. NRM-5000/6000 standing seam roof system as manufactured by Nu-Ray Metals, 1234 37th street NW Auburn, WA, ph.: 800-700-7228; fax: 888-797-5618
- B. The NRM-5000/6000 panel shall have coverage of 12" or 16". Integral standing seams shall be 1" high.
- C. The panel shall have the option of pencil ribs or light striations.
- D. The panel system shall be as a true standing seam shape requiring no trapezoidal foam closures, plugs, or fillers at eaves.

PRODUCT SUBSTITUTIONS

- A. Requests to use alternate systems shall be submitted in writing to the project designer at least ten (10) days prior to bid date. Request shall demonstrate proposed substitution meets or exceeds specified performance requirements. Certified statements, samples and descriptive data shall be included in this submittal request.
- B. Manufacturers listed in this section are prequalified manufacturers. Substitution of manufacturer's products for those specified shall not be allowed at any time during construction.

MATERIALS AND FINISHES

- A. Panel materials
 - 1. 24 gauge, Grade 50 (50 ksi yield strength) structural steel with G90 (0.90 oz./ft.²) hot dipped galvanized coating, both conforming to ASTM A 653.
 - 2. 26 gauge, Grade 50 (50 ksi yield strength) structural steel with AZ50 (0.50 oz./ft.²) aluminum-zinc alloy coating, both conforming ASTM A 792.
- B. Texture: steel shall be smooth.
- C. Finish: [choose one]
 - 1. 24ga only: Kynar 500 Ultra COOL® fluorocarbon baked-on coating, factory applied prior to roll forming. The treatment shall be a two-coat system consisting of a single coat of 0.2 mil primer followed by a finish coat of 0.8 mil Kynar topcoat with a total dry film thickness of 1.0 mil ± 0.2 mil. The reverse side of the panels shall be treated with a back coat system consisting of a 0.2 mil primer with a 0.3 mil topcoat for a total dry film thickness 0.5 mil.

2. 26ga only: Nu-Shield w/TEFLON® exterior finish consisting of a baked on acrylic primer (0.2 mil) and a baked-on finish coat (0.8 mil) totaling nominal 1.0 mil dry film thickness with cool ceramic pigments (min. 25% Solar Reflectance Value).
3. Zincolume Plus protective coating.

D. Color: Select from manufacturer's standard selection of not less than 12 colors.

ACCESSORIES

- A. Flashing and Trim
 1. All flashing and trim shall be of the same material, gauge, finish, and color as the roof panels and fabricated in accordance with standard SMACNA procedure and details.
 2. Provide transition rib covers where roofing changes pitch.
 3. Fabricate gutters and downspouts in the same gauge, material, finish, and color as the roof panels.
- C. Fasteners
 1. Screw shall be #12 or #14 diameter, self-tapping type, zinc-plated steel.
 2. Flashings to panels: exposed screws shall be zinc plated with a #9 x 1" or #14 x 7/8" combination steel and neoprene washer, color to match panel.
 3. Pop rivets: #43 stainless steel, color finish to match panel.
- D. Sealants
 1. Shall not contain oil, asbestos, or asphalt.
 2. Factory applied sealant shall be applied in the seam and designed for metal to metal concealed joints.
 3. Field applied panel end sealant shall be mastic tape sealant.
 4. Exposed sealant shall be one-part polyurethane joint sealant. Coordinate color with roof panels.
 5. Ridge and hip closures shall be protected and supported by a formed metal closure manufactured from the same material, color, and finish as the panels.
 6. Metal closures shall be factory-fabricated and field-cut as needed.

RELATED MATERIALS

- A. Refer to other sections listed in Related Sections paragraph for related materials.

FABRICATION

- A. Roof panels shall be formed in continuous lengths.
- B. Panels shall be roll formed on a stationary industrial type rolling mill to gradually shape the sheet metal.
- C. Fabricate flashings from the same material as the roof system.

SOURCE QUALITY

- A. Source Quality: obtain metal panels and accessories from a single manufacturer.
- B. Fabrication tolerances: follow tolerances in MCA's Preformed Metal Wall Guidelines.
- C. Tests and inspections
- D. Verification of performance

PART III EXECUTION

MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product cartons for installation.

EXAMINATION

- A. Installer shall:
 1. Inspect roof purlins and/or roof deck to verify that it complies with shop drawings and is smooth, even, sound, and free of depressions.
 2. Report variations and potential problems in writing to the architect.

INSTALLATION

- A. Conform to the standard set forth in the SMACNA architectural sheet metal manuals and the approved shop drawings detailed for the project.
- B. Install panels plumb, level, and straight with the seams parallel, conforming to the design as indicated.
- C. Install panel system so it is watertight, without waves, warps, buckles or distortions, and allow for thermal movement considerations.
- D. Abrasive devices shall not be used to cut on or near roof panel system.
- E. Apply sealant tape or caulking as necessary at flashing and panel joints to prevent water penetration.
- F. Remove any strippable film immediately upon exposure to direct sunlight.
- G. Vapor retarder: The joints, perimeter, and all openings shall be sealed per the manufacturer's instructions to provide a continuous vapor retarder.
- H. Underlayment (solid substrate):
 1. Provide one layer of 30# felt with horizontal overlaps and endlaps staggered between layers.
 2. Provide ice and water shield membrane at all valley and eave conditions as well as any area at less than a 3:12 slope.
 3. Lay parallel to ridge line with 2½" horizontal laps and 6" vertical laps.

CLEANING

- A. Dispose of excess materials and debris from jobsite.
- B. Remove filings, grease, stains, marks, or excess sealants from roof panel system to prevent staining.
- C. Protect work from damage from other trades until final acceptance.

END OF SECTION

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