

SECTION 07 61 16
STANDING SEAM SHEET METAL ROOFING

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the installation of standing seam copper roofing.

1.2 RELATED WORK

Sealant: Section 07 92 00, JOINT SEALANTS.

1.3 INSTALLATION REQUIREMENTS

Install in accordance with SMACNA Architectural Sheet Metal Manual except as otherwise shown or specified.

1.4 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only:
- B. American Society for Testing and Materials (ASTM):
 - B32-04.....Solder Metal
 - B152-06.....Copper Sheet, Strip, Plate, and Rolled Bar
 - C171-03.....Sheet Materials for Curing Concrete
 - D226-06.....Asphalt-Saturated Organic Felt Used In Roofing
and Waterproofing
 - D227-03.....Coal-Tar-Saturated Organic Felt Used in Roofing
and Waterproofing
 - D2822-05.....Asphalt Roofing Cement
 - F1667-05.....Driven Fasteners: Nails, Spikes and Staples
- C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual (Sixth Edition - 1993)

PART 2 - PRODUCTS

2.1 SHEET COPPER

ASTM B152, light, cold-rolled (Hard).

2.2 FLASHING CEMENT

ASTM D2822, Type I.

2.3 SOLDER

ASTM B32: Flux type and alloy composition as required for use with metals to be soldered.

2.4 ROOFING FELT

ASTM D226, Type I or ASTM D227.

2.5 NAILS

- A. ASTM F1667, copper slating nails with large flat heads and needle points.
- B. Nails of sufficient length to penetrate nailer at least 22 mm (7/8-inch).

2.6 RIVETS

Copper or copper alloy not less than 3 mm (1/8-inch) diameter.

2.7 BUILDING PAPER

ASTM C171.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Follow SMACNA manual except as otherwise specified here.
- B. Roofing surface:
 - 1. Clean and dry before application.
 - 2. Cover surface with roofing felt and a layer of building paper with seams lapped 50 mm (two inches).
 - 3. Use copper nails driven through sheet copper washers not less than 25 mm (1-inch) square.
- C. Form tapered wood batten 75 mm (3 inches) wide at top, 57 mm (2-1/4 inches) wide at bottom and 38 mm (1-1/2 inches) high unless otherwise shown. Secure battens to roof deck construction with lag bolts or wood screws having the heads recessed below the top of the batten. Space battens to suite width of pans.
- D. Lay sheets of 450 g (16 ounce) copper formed into pans with sides turned up to top of batten and out 13 mm (1/2-inch) for locking to cover. Form cross seams by forming folds on upper and lower ends. Stagger cross seams. Slit cross seam at each corner to form a tab.

- E. Form cleats of 50 mm (2-inch) wide 450 g (16 ounce) copper. Place cleats at center of each cross seam and along battens at 300 mm (12 inches) on center.
- F. At eaves and rakes which do not abut vertical surfaces, turn roofing sheets over edge of roof sheathing and hook 19 mm (3/4-inch) over a 560 g (20 ounce) cold rolled copper edge strip. Form edge strip from 2440 to 3000 mm (8 to 10 foot) long pieces with ends butted together. Secure edge strip to roof deck with nails 100 mm (4 inches) on center. Face nailing of roofing will not be permitted.
- G. Cover batten with 450 g (16 ounce) copper. Lock edges together with flanges of pans and mallet down against side of battens.
- H. Ridges and hips shall be copper covered battens similar to roof battens.
- I. Cover exposed ends of battens with copper caps locked in place.

3.2 JOINING

- A. Solder seams where required to produce water tight joints. Completely remove flux after soldering is completed.
- B. Edges of copper required to be soldered shall be tinned with solder for a width of 38 mm (1-1/2 inches).
- C. Joints in copper up to 560 g (20 ounce) weight may be soldered.
- D. Jointing of copper over 560 g (20 ounces) weight shall be done by lapping, riveting and soldering. Space rivets 75 mm (3 inches) on center in two rows in a staggered position.

3.3 SEALING

Where dowels, fastening devices and similar items penetrate roofing, make penetrations watertight by means of sealing compound. Sealing compound is specified in Section 07 92 00, JOINT SEALANTS.

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