

SECTION 07 32 13
CLAY ROOF TILES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Clay roof tiles over underlayment nailed to roof sheathing. It is intended for the existing clay roof tiles to be taken off the structure and suitable stored, and re-install tiles after all wood framing has been completed. Use new clay tile, to match, where existing tile is cracked or broken only.

1.2 RELATED REQUIREMENTS

- A. Miscellaneous Wood Carpentry: Section 06 10 00, ROUGH CARPENTRY.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
1. B3-13 - Soft or Annealed Copper Wire.
 2. C270-14a - Mortar for Unit Masonry.
 3. C920-14a - Elastomeric Joint Sealants.
 4. C1167-11 - Clay Roof Tiles.
 5. D226/D226M-09 - Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 6. D1970/D1970M-15a - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 7. D4586/D4586M-07(2012)e1 - Asphalt Roof Cement, Asbestos-Free.
 8. F1667-15 - Driven Fasteners: Nails, Spikes, and Staples.

1.4 PREINSTALLATION MEETINGS

- A. Conduct preinstallation meeting at project site minimum 30 days before beginning Work of this section.
1. Required Participants:
 - a. Contracting Officer's Representative.
 - b. Architect/Engineer.
 - c. Contractor.
 - d. Installer.

1.5 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
1. Show size, configuration, and details of custom shapes.

1.6 STORAGE AND HANDLING

- A. Store tiles according to manufacturer's instructions. Store roll goods on end in upright position.
- B. Protect products from damage during handling and construction operations.
- C. Keep materials dry, covered completely and protected from weather.

1.7 FIELD CONDITIONS

- A. Environment:
 - 1. Mortaring Ambient Temperature: Minimum 4 degrees C (40 degrees F) and rising.

1.8 WARRANTY

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS

2.1 PRODUCTS - GENERAL

- A. Provide clay roof tile from one manufacturer and from one production run.

2.2 CLAY ROOF TILES

- A. Clay Roof Tiles: ASTM C1167, Grade 1, providing resistance to severe frost action. Match existing profile.
- B. Tiles for Repairs: Match existing tile color, size, and shape.

2.3 ROOFING NAILS

- A. Nails for Clay Roof Tiles: ASTM F1667, Type I, Style 23, copper slating nails.
 - 1. Length: Penetrate roof deck minimum 19 mm (3/4 inch).

2.4 ROOFING UNDERLAYMENT

- A. Organic Felt: ASTM D226/D226M, Type II, No. 30, non-perforated.

2.5 METAL FLASHING

- A. Provide metal roof flashings, including apron flashings, step flashings, valley flashings, drip edges, and vent pipe flashings.
 - 1. Metal: Copper.
 - a. Valleys: 1 mm (20 oz., 0.039 inches) minimum.
 - b. Other Locations: 0.55 mm (16 oz., 0.022 inches) minimum.

2.6 ACCESSORIES

- A. Asphalt Roof Cement: ASTM D4586/D4586M, Type II.
- B. Mortar: ASTM C270, Type N or O. Match tile color.

- C. Joint Sealant: ASTM C920, nonstaining silicone, Type S, Grade NS, Class 100/50.
- D. Nailers: Preservative-treated wood complying with Section 06 10 00, ROUGH CARPENTRY.
- E. Copper Wire: ASTM B3, 2.11 mm (0.083 inch) diameter, minimum.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for roofing installation.
 - 1. Verify roof substrates are sound, within manufacturer's tolerances, and free from defects which would interfere with roofing installation.
 - 2. Verify roof accessories, vent pipes and other projections through roof are in place and roof flashing is installed, or ready for installation, before installing clay roof tiles.
 - 3. Ensure other construction operations requiring roof deck traffic are complete.
- B. Protect existing construction and completed work from damage.

3.2 INSTALLATION - GENERAL

- A. Install products according to manufacturer's instructions.
 - 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.

3.3 METAL DRIP EDGE INSTALLATION

- A. At eaves and rakes, install copper drip edges.
 - 1. Eaves: Install metal drip edge before underlayment.
 - 2. Rakes: Install metal drip edge after underlayment.
- B. Secure metal drip edges with compatible nails spaced maximum 250 mm (10 inches) on center along inner edges.

3.4 FLASHING INSTALLATION

- A. Install metal flashings at valleys and projections through deck such as chimneys and vent stacks. Install apron flashing to cover roof tiles at downslope sides of projections.
- B. Install crickets on upslope sides of projections.
- C. Overlap vertical leg of channel flashing and apron flashing with counterflashing 50 mm (2 inches) minimum.
- D. Valley Flashing: Shingle type.
 - 1. Secure valley flashing according to manufacturer's instructions.

2. Width: 300 mm (12 inches) minimum, both sides of valley.

3.5 UNDERLAYMENT INSTALLATION

- A. Install two layers organic felt underlayment on roof deck not covered by self-adhering sheet underlayment, with 150 mm (6 inches) minimum end laps, 75 mm (3 inches) minimum head laps, and 300 mm (12 inches) minimum ridge laps.
 1. Lap in direction of flow.
 2. Stagger vertical joints.
 3. Nail felt 125 mm (5 inches) on centers along laps.

3.6 ROOF ACCESSORY INSTALLATION

- A. Install roof vents before installing clay roof tiles.
- B. Lap underlayment over base flanges of roof accessory flashings.
- C. Install channel flashing and counterflashing at base of roof accessories.

3.7 NAILER INSTALLATION

- A. Fasten wood nailers to roof deck as required.

3.8 CLAY ROOF TILE INSTALLATION

- A. Lay courses parallel with eaves.
- B. Do not stretch courses.
- C. Space courses to finish even and parallel upper level terminations.
- D. Use special shapes to start and finish hips, ridges, and rakes.
- E. Fit tiles closely at ridges, around vent pipes, flashing and other projections through roof.
- F. Secure each tile with two nails, where possible.
 1. Use copper wire fastening where nails are not possible.
- G. Cover nails and wire fastenings in finished work.
- H. Lay tile with minimum 75 mm (3 inches) end lap.
- I. Recess eave closure tile minimum 38 mm (1-1/2 inches) from lower end of tile.
- J. Fill laps at the following locations with roof cement:
 1. End bands.
 2. Ridge cover tiles.
 3. Gable rakes at end bands.
 4. Gable rakes at field tiles.
- K. Use maximum 6 mm (1/4 inch) thick roof cement to level tile.
 1. Use mortar to level and bed tile where off-level dimension exceeds 6 mm (1/4 inch).

L. Use sealant to point around eave closures, ridge cover joints, and top fixtures.

1. Apply sealant cap bead over exposed fasteners.
2. Comply with Section 07 92 00, JOINT SEALANTS.

3.9 RIDGE VENT INSTALLATION

- A. Install ridge vents over nailers.
- B. Install clay roof tiles over ridge vents.

3.10 REPAIR

- A. Replace damaged and stained tiles.

3.11 CLEANING

- A. Upon completion remove cement splatter and excess roof cement from clay roof tile and adjacent surfaces.

3.12 PROTECTION

- A. Protect clay roof tiles from construction operations.
- B. Do not allow traffic on roof after completion.

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