

DIVISION 7 - MOISTURE PROTECTION (SUBJECT TO DIVISION 1)

7.A. ROOFING

1. Materials:

- A. Roofs with slopes of 3/12 or greater: 220 lb. minimum, self-sealing shingles. Roofs with slopes of 2/12 or less: modified membrane roofing. Shingles shall carry National Underwriters Class C label.
- B. Saturated felts to be 15 lb. asphalt saturated felt for roof surfaces and 30 lb. saturated felt for base sheet.
- C. Style D drip edge in a color to match shingles.
- D. Modified membrane roofing shall be installed in strict conformance with the manufacturer's instructions. It may be installed with a cold process method, or a heat welded method, at the discretion of the roofer in consultation with the rehab office.
- E. Plywood Roof Sheathing: ½", APA Grade, CDX exterior plywood or Oriented Strand Board (OSB).
- F. Flashing: Flashing shall be 26 gauge painted valley tin or aluminum. Counter flashing or weathering with siding or shingles required.
- G. Roof Sheathing Board: To be #2 common or better pine with no loose knots or approved equal.
- H. Nails: Galvanized roofing nails shall be 11 or 12 gauge barbed shank galvanized or aluminum.
- I. Plastic Cement: Plastic roof cement (for edge, seal before nailing flashing).
- J. All roofing materials must be new and fulfill the requirements of the Uniform Building Code.
- K. Pneumatically driven staples shall be 16 gauge zinc-coated staples with nominal crown.

2. Installation:

- A. Examine roof sheathing, cornice and eave edges prior to starting work. Notify the Rehab Office of any defects, and do not proceed until such have been corrected. When sheathing is bad, call the Rehab Office for inspections unless otherwise stated in Bid Documents. The term "RE-ROOF" shall include all porches, additions, and structures attached to the main structure (house) unless otherwise stated. Vents shall be installed as stated in Division 5.J.1.
- B. One layer of 15 lb. felt shall be installed over the decking following manufacturer's instructions.
- C. Install metal drip edges.
- D. Nail each shingle in accordance with manufacturer's instructions for nailing.

- E. Lacing, metal valleys, or "California" valleys may be used, provided they comply with all applicable codes and are acceptable to the owner and Rehab Office.
- F. Form ridges and hips with preformed shingles, 5" exposure and with a minimum of two (2) nails per shingle.
- G. All projections through the roof shall be flashed in an appropriate manner.
- H. Where necessary due to roof design, an appropriate "saddle" or "cricket" shall be constructed to divert water around the chimney or other roof projection. Materials proper for the roof conditions shall be used, and the Housing Rehab Specialist shall be consulted as to design and materials.
- I. All roofing material to be installed in accordance with manufacturers instructions to insure coverage by manufacturers warranty as well as an aesthetically correct manner. The shingles shall line up both vertically and horizontally with no waving or irregularity in the courses.

3. Warranty:

- A. Roofing contractor shall furnish a one (1) year written warranty to Rehab Office on workmanship and materials other than shingles, shingles have a minimum 20-year warranty.

7.B. REPAIR ROOFING

- 1. Repair existing roof. All replacement materials shall match existing as closely as possible, and shall be installed according to manufacturer's directions and all applicable codes.
- 2. This includes any broken, damaged, missing, or rotted sheathing, fascia, rake, cornice, soffit flashing, etc., as required.

7.C. STRIP ROOF

- 1. Strip existing roof, removing all shingles and felt. All old nails shall be removed.
- 2. Make repairs to the existing roof rafters where required to provide adequate strength and a true and level surface.
- 3. Remove all warped and deteriorated sheathing and replace with material of an appropriate thickness.
- 4. Fill in all spaces between boards with securely nailed wood strips of the same thickness as the old deck, OR, if necessary, resheath over existing roof boards with CDX plywood or OSB, "1/2" minimum. Plywood is to be installed with outer plies at right angle to rafters and staggered so that end joints in adjacent panels break over different supports.
- 5. Sink all protruding nails and re nail sheathing securely at all locations. All large cracks, slivers, knot holes, loose knots, pitchy knots and excessively resinous areas are to be covered with 26 gauge sheetmetal securely nailed to sheathing.
- 6. Before shingling, sweep roof thoroughly to remove all debris.
- 7. Remove all roofing materials, debris, etc., from premises and leave in a clean condition.

7.D. MODIFIED MEMBRANE ROOFING

1. Strip existing roofing, removing all rolled roofing, shingles, and felt areas.
2. Make repairs to the existing roof framing as required to provide adequate strength and a true and level surface.
3. Remove all warped and deteriorated decking and replace with like kind.
4. Fill in all spaces between boards with securely nailed wood strips of the same thickness as the old deck, if necessary, resheath over existing roof boards with CDX plywood or OSB, 3/8" minimum.
5. Sink all protruding nails and re nail sheathing securely at all locations. All large cracks, slivers, knot holes, loose knots, pitchy knots and excessively resinous areas are to be covered with 26 gauge sheet metal securely nailed to sheathing.
6. Furnish and install new modified membrane roofing, as required, installed according to manufacturer's directions - using either cold process adhesive or heat welded process.

7.E. METAL WORK, GUTTERING

1. Materials: Unless otherwise specified, all sheetmetal work on exterior of building shall be galvanized metal and shall be at least 26 gauge. Screws, bolts and other accessories shall also be galvanized.
2. Cleaning: Flux for soldering shall be thoroughly washed off after soldering is completed.
3. All flashing materials required to be built into other construction (such as chimney, roofing, etc.) shall be furnished, delivered and/or installed in sufficient time so as to be properly installed in the normal progress of work.
4. Seamless gutters shall be installed having a 4" minimum width at top and shall be supported with 1" x 3/16" hangers or spikes at a maximum spacing of 2'0". Place gutter a minimum of 1/2" below slope line in roof. Slope to downspouts at a rate of 1/16" per foot.

Do not allow contact between galvanized and copper or aluminum, this includes dissimilar nails. Partial replacement or repair shall match existing as closely as possible as to materials, finish, size and shape. Minimum thickness for gutters shall be .027".

5. Downspouts shall be a minimum of 2" x 3" aluminum, secured to building with aluminum metal straps at a maximum of 6'0" spacing. Fit with elbows to divert water into splashblocks. Downspouts shall have a minimum 4' extension to divert runoff away from the foundation of the house.
6. May use galvanized metal (1/2 round) in place of aluminum for gutters and downspouts if specified in Bid Document.

7.F. CAULKING

1. Materials:
 - A. Caulking compound shall consist of material which will not harden, crack or flow under extreme weather conditions. It shall be free of oils or other ingredients which will stain. It shall be an appropriate type of caulk for the materials to be sealed.
2. Preparation and Application:

- A. Joints, spaces, and surfaces to be caulked shall be dry, clean, and free from dust.
- B. Prime according to manufacturer's directions.
- C. Pack deep joints and cracks with backup filler within ½" of surface before caulking.
- D. Apply caulking with gun having proper size nozzle; fill joints and spaces solid, remove excess compound; leave surface smooth and clean.
- E. Apply caulking before final coat of paint.
- F. Set thresholds in full bed of caulking.
- G. Caulk ¼" bead around all bathtubs with caulking. Verify with owner if caulking is to be painted. Caulk shall be mildew-resistant silicone.

7.G. WATERPROOFING

- 1. New exterior foundation walls are to be damp-proofed by applying one trowelled-on coating of asphalt bitumen emulsion in accordance with the manufacturer's instruction. Apply emulsion from the footing to a line that will correspond to a new finish grade. Back filling shall be so installed as to prevent damage to water proofing. Membrane protection is to be supplied where backfill contains stones or gravel that would damage damp-proofing.
- 2. New foundation walls shall be tiled inside and out. See Section 10.G., 10.H., 10.I.