

DIVISION 07 – THERMAL & MOISTURE PROTECTION

07 05 00 Common Work Results for Thermal & Moisture Protection

- A. All roof levels above one story must have access by means of hatch, door, or by another roof level.
- B. A ships ladder shall be provided for access to roof hatch with a landing at 48" below the hatch; a switched light shall be provided at the top of the landing.
- C. Roofing Projects
 - 1. Roof Drains: Drains shall be maintained at the current elevations with insulation sump to drain.
 - 2. Plumbing/HVAC: All work requiring roof-top units and plumbing fixtures to be modified for the roof work is the responsibility of the roof contractor. All work shall be performed by a licensed contractor that has been approved by UND Facility Management.
 - 3. Electrical: All work requiring any electrical and telecommunication line to be modified for the roof work is the responsibility of the roof contractor. All work shall be performed by a licensed contractor that has been approved by Facility Management.
 - 4. There shall be a minimum of one 20-pound fire extinguisher, type ABC, for each open flame, torch, or kettle that is located on the job site.
 - 5. Re-burners must be utilized with all tar kettles to minimize noxious fumes.
 - 6. Roof replacement projects that are more than two stories above the ground require the use of chutes to contain the debris removed. The use of cranes, forklifts, and other means that will bucket the material off the roof is acceptable.
 - 7. Existing surface areas, hard and landscaped surfaces, shall be protected.
 - 8. No additional roofing will be removed without approval from UND PM. Existing surfaces damaged by the contractor shall be removed and replaced at the contractor's expense.
 - 9. Water stop is required where a vertical wall meets with a horizontal slab.

07 21 00 Thermal Insulation

- A. ASHRAE Standard 90.1-2004 shall be followed.
- B. Roof Insulation:
 - 1. The primary insulation shall be polyisocyanurate with a 0.50-inch fiberboard top sheet
 - 2. Design a 0.25 inch per foot slope in all new construction.
 - 3. Provide on new construction a minimum R-26 insulation value.

07 26 00 Vapor Retarders

- A. Vapor barriers shall be used where high moisture content areas exist such as pools, showers, residence halls, and food service areas.

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- B. A minimum 10 mil. poly vapor barrier shall be used and should be installed to wrap up six inches on blocking and nailed six inches on-center on the blocking.

07 50 00 Membrane Roofing

- A. No. 1 grade non-reinforced Ethylene, Propylene, Diene, Terpolymer (EPDM), minimum 60-mils thickness.
 - 1. On roofs with exhaust hoods that emit oils & chemicals that could damage the membrane, provide a slip sheet around the perimeter of the unit with this continuing to the nearest drain.
 - 2. If the roof has several units that emit oils & chemicals that could damage the membrane, a suitable membrane that is resistant to these materials should be used.
- B. All seams shall be fastened using the manufacturer's three-inch seam tape.
- C. Any seams with more than 0.5 inch of tape visible will be covered with manufacturers six-inch cover strip.
- D. Perimeter and curb fastening shall use the manufacturers reinforced nailer strip, minimum six-inch wide, fastened every six inches using a one-inch fastening (batten) bar.
- E. Perimeter fastening plates are not allowed as means of securing the perimeter strips.
- F. Preformed EPDM sleeves and flashing shall be minimum 60 mils thickness with manufacturers stamp.
- G. Fully adhered and mechanically fastened roof membranes are preferred for flat surfaces.
 - 1. Mechanically fastened membranes shall be reviewed upon installation.
 - 2. Ballasted roofs and self-adhering membranes allowed as required.

07 60 00 Flashing and Sheet Metal

- A. Sheet Metal Roofing
 - 1. Flashing trim and standing seam roof panels shall be fabricated of zinc-coated steel conforming to the G90 coating designation, aluminum-zinc alloy coated steel conforming to the AZ50 coating designation, or aluminum-coated steel conforming to Mil. Spec, Typ II.
 - 2. Minimum thickness of the sheet metal shall be 22 gauge.
 - 3. Scuppers and downspouts shall be opened faced and match the roof flashing trim color.
 - a. For downspouts, utilize a colored liner with horizontal strapping four feet on center for support.
 - b. Avoid placing a downspout on the north elevation.
 - c. Line all mechanical curbs and roof hatches with sheet metal.

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- d. Install 20 gauge aluminum mechanical clips on all paving blocks. Provide 24 gauge galvanized iron, continuous cee-channel edging at perimeter or all corner pavers.

07 90 00 Joint Protection

- A. Acceptable polyurethane sealants are Tremco and Sika-flex or approved equal in a single or multiple components.
 - 1. Acceptable silicone sealant to be used where there is glazing installed and not where sealant will be immersed in water continuously.
 - 2. A closed cell PVC backer rod that is 30 to 50 percent larger than the joint width shall be used at each joint.
- B. All exterior surfaces such as louvers, lights, outlets, etc. shall be caulked. 3) All interior tile corners of bathrooms shall be caulked.