1. This information provides guidelines for building insulation, including rigid insulation panels on flat roofs. Temporary facilities and controls are covered in other parts of these standards or are available from the Facilities Management (FM) project representative.

2. FM project representative shall approve selection of materials, means, and methods. Unless otherwise approved, design intent requires means and methods that provide minimal disruption to adjacent building activities and operations.

3. When working on or adjacent to existing buildings, require means and methods that protect occupants from exposure to noise, dust, traffic, and other hazards.

4. Prohibit use of asbestos containing materials; specifications shall specifically prohibit its use.

5. Designer should ensure at a minimum that proposed insulation products conform to current Energy Code (WAC 51-11C-402) (WAC Table C402.1.3) and required fire ratings. Surface burning characteristics: Maximum flame spread and smoke developed values of 25 and 50, respectively (unless other more restrictive requirements govern).

6. Obtain each type of building insulation from a single source.

7. Thermal insulation (walls, ceilings, joisted or slab floors):
   a. Batt insulation: Fiber glass batt, foil or kraft backed; Owens Corning, Certainteed. R-value and thickness as specified. Coordinate vapor retarder to be on warm side; see additional requirements below.
   b. Rigid insulation:
      Walls: Polyisocyanurate insulation (“Thermax”); R-value and thickness as specified. Under slab: Extruded polystyrene “blueboard” or “pinkboard”; R-value and thickness as specified.
   c. Loose-fill granular insulation (in CMU): Expanded Perlite, surface treated for water repellency and limited moisture absorption); R-values of 3.3 to 2.8 for densities of 4.1 lbs/cf to 7.4 lbs/cf at 75 degrees.
   d. Roofing insulation (rigid panels): Polyisocyanurate insulation, closed cell foam, glass fiber reinforced type facers:
      i. Board size: 4’x 8’.
      ii. Board thickness (unless noted otherwise): Maximum thickness 2” for any one layer.
      iii. Board taper: To achieve ¼” per foot (U. N. O.) at locations shown on plans.
      iv. Compressive strength: Minimum 20 psi. (May increase where foot traffic is heavy.)
   v. Acceptable manufacturers: Apache Products Co.; Atlas Energy products; Celotex; International Permalite, Inc; NRG Barriers, Inc. (Manville); Owens Corning; R-Max; or comparable as approved.
   e. Insulate all cavities so there are no short circuits for heat loss.
   f. Stagger joints between layers of board insulation.
   g. Coordinate ventilation for attic spaces and other building cavities where moisture might condense.
8. Vapor retarders:
   a. Provide vapor retarder on warm side of insulation, 6 mils thick polyethylene sheet, adhesive applied to structure to avoid penetrations is preferred. (Ice and Water Shield, Green Frog, Tyvek)
   b. Other methods such as kraft or foil backed batts are acceptable so long as maximum transmission rating of .13 perm is achieved. Facing for batts should overlap face of studs so final installation provides a continuous barrier. Coordinate overall insulation assembly so there is only one vapor retarder layer so moisture can’t get trapped.
   c. Provide fire-retardant reinforced polyethylene wherever vapor barrier is left exposed to a potential fire. Stick pin installation acceptable in concealed areas.

9. Sound attenuation insulation:
   a. Noise barrier batt insulation: friction–fit fiberglass batt, Type I, Owens-Corning “Sonobatt.”
   b. Verify wall configuration doesn’t contain short circuits for sound transmission such as back-to-back outlets, above suspended ceiling paths, or around doors and re-lite windows.
   c. See additional requirements in “WWU Design Guide Acoustical Standards.”

End