



# MOBILE HOME SPECIFICATIONS

## FLOOR INSULATION

### CONSERVATION LOAN PROGRAM

Revised August 1, 2006

#### LOOSE FILL INSULATION BLOWN THROUGH THE RODENT BARRIER

MH-200.00

#### **ELIGIBLE STRUCTURES**

Electrically heated Mobile Homes with an intact rodent barrier whose duct system is independent of the floor joists. Joist cavities must have no more than existing R-11 insulation. The Insulation must rest below the level of the floor joists.

The PUD is interested in its customers making prudent investments in weatherization. This means that the PUD will review each proposed application to ensure that it makes sense as an investment for the customer as well as the PUD. The PUD reserves the right to limit and in some cases deny an application if it believes it is not in the best interest of either party.

#### **PROCEDURE**

MH-200.10 Obtain all necessary permits required by the Department of Labor and Industries.

MH-200.20 Inspect underfloor for leaks, rot or pest infestation. If any problems exist, repairs shall be made at the Homeowners expense prior to beginning any weatherization work.

MH-200.30 The skirting on the mobile home shall be continuous around the home without gaps. If gaps exist, repairs shall be made at the homeowners expense outside of this program.

- MH-200.40 If the home contains a duct system, it shall be checked to ensure that the system is intact. Damaged areas shall be repaired and sealed. This shall be accomplished prior to introducing insulation into the surrounding cavities.
- MH-200.45 Cross-over ducts shall be inspected by the Contractor. If the duct is found in need of repair the Contractor shall repair it and include the cost as part of the floor installation. When required, replacement is acceptable.
- MH-200.47 Cross-over ducts shall be insulated to a minimum of R-8 and shall be mechanically fastened at each end using screws, clamps or other securing devices. Flexduct 90° corners shall be accomplished only with the use of 90° rigid metal elbows. Any excess duct material shall be trimmed to minimize the distance between entrance and exit ports under the home.
- MH-200.50 The direction of the floor joists shall be identified to determine the direction the material is to be blown (across the mobile or with the length of the mobile).
- MH-200.55 Tears, holes or any other relevant damage in the rodent barrier shall be repaired prior to insulating. Repairs shall be sufficient to provide support of the loose fill material to be added.
- MH-200.57 All gaps around holes in the rodent barrier where plumbing or other equipment penetrates shall be sealed.
- MH-200.60 Floors with large openings in the rodent barrier shall be batted and supported. The batts shall be protected with an acceptable rodent barrier. The barrier shall be of equivalent or better strength than the existing barrier (Reinforced FSK is acceptable).
- MH-200.63 Both the batts and the barrier shall be supported following any of the methods identified in the Snohomish County PUD Weatherization Specifications.
- MH-200.65 Special care shall be taken when insulating on top of rodent barriers constructed of asphalt impregnated board. Additional support shall be provided at every joist where the joist is not supported by the home's frame (chassis). The distance between the support shall not exceed 3 feet. An acceptable method of providing support would be to use 3" (inch) washers anchored with screws that penetrate the floor joists a minimum of 1" (inch).
- MH-200.67 Only mineral fiber insulation's shall be installed.

- MH-200.70 There shall be a minimum of 3 access holes per joist cavity for blowing in insulation. The holes shall be spaced no more than 72 inches apart and no more than 3 feet from the exterior edge of the mobile home. On double wide mobile homes the center beam shall also be considered an exterior edge.
- MH-200.80 Each cavity shall be filled using a 90 degree directional nozzle.
- MH-200.90 An in-progress inspection is required prior to patching and sealing the insulation access holes. Arrangements for the inspection shall be made no less than two (2) work days prior to the actual installation.
- MH-201.00 All insulation access holes shall be patched and sealed with a material of sufficient strength to insure it will not tear, come loose, or create an easy access for rodents.
- MH-201.10 A 6 mil ground cover shall be installed under homes where none exists or the existing is damaged beyond repair. The ground cover shall cover the entire area under the home including all structures connected to the mobile home and open to the crawlspace (e.g. enclosed porches, laundry room add-ons).
- MH-201.20 The crawl space shall be vented at a ratio of 1 square foot of ventilation for every 300 square feet floor area if dry (1 to 300) or (1 to 150), if wet.
- MH-201.25 When calculating the required ventilation, include all enclosed areas that open into the crawlspace (e.g. porches and any other add-on).
- MH-201.30 Pipes exposed below the level of the rodent barrier shall be wrapped with insulation or preformed pipe wrap with an R-value of a least 3.
- MH-201.33 The pipe wrap shall be installed in a professional manor with no gaps or openings. All end joints between preformed pipe wrap shall be taped.
- MH-201.35 If clothes dryers (or other exhaust systems) are found vented directly into the crawl space, underfloor insulation shall not be installed until the vent is extended directly to the outside of the structure. The vent shall terminate in a non-screened vent cap with a damper. Extension material in excess of six feet must be metal with a non-ribbed interior and mounted in such fashion that no traps or reversing horizontal runs are present. An approved flex pipe may be used for extensions of 6 feet or less. All exposed ducts shall be insulated to an R-4.
- Kitchen range exhaust fans that are vented to the crawl space shall be ducted through to the exterior of the building in accordance with local codes and the manufacturers instructions.

- MH-201.40 The Contractor shall provide a written workmanship warranty of at least 2 years. A copy shall be provided to the Homeowner and the PUD.
- MH-201.45 A Certificate containing the following information shall be left with the Homeowner and a copy be provided to the PUD:
- Residence Address
  - Installation Date
  - Name and Address of the Installer
  - Amount, R-value, type and brand of insulation installed.
  - Square feet of area installed
  - Coverage chart of material blown
- MH-201.50 At job completion, all debris and excess material shall be removed from the site.

**BATT INSULATION WHERE THE RODENT BARRIER IS ABSENT**

- MH-250.10 In applications where the rodent barrier is removed or is damaged beyond reasonable repair, the Contractor shall install batt insulation.
- MH-250.20 The batts shall be installed using any of the methods allowed under the Snohomish County PUD Weatherization Specifications.
- MH-250.30 All applicable areas of the Snohomish County PUD Weatherization Specifications shall be adhered to, including floor, duct, pipe, venting and ground cover specifications.
- MH-250.40 The Contractor shall inform the homeowner, prior to insulating, that a rodent barrier cover is required by Labor and Industries. If the homeowner wishes to have the Contractor install a new barrier, it shall be done separate from this program and at the Homeowners expense.
- MH-250.50 In such cases, the Contractor shall make arrangements for the PUD to inspect the insulation work prior to the installation of the rodent barrier.