



State of Ohio
Weatherization Program
Standards

Section **MOBILE HOME
INSTALLATION**

Subject **Ceiling**

ELECTRICAL SYSTEM SAFETY 702-3.1

Correct, or have corrected, electrical problems such as unsafe attic wiring prior to installing ceiling insulation.

electrical problems
702-3.1a



Install proper-sized fuses or breakers prior to installing insulation.

**proper sized fuses/
breakers**
702-3.1b

Install shielding around non-insulation contact rated electrical devices such as recessed lights.

shielding
702-3.1c



PERSONAL PROTECTIVE EQUIPMENT 702-3.2

Use appropriate personal protective equipment to ensure personal safety. Use work practices which ensure the safety of the residents and the crew.

**personal protective
equipment**
702-3.2a



CEILING 702-3.3

Repair or replace missing or damaged ceiling sections to hold the weight of added insulation.

damaged ceiling
702-3.3a

Do not install cellulose insulation where it will come in contact with an exposed metal roof.

exposed metal roof
702-3.3b

ATTIC PREPARATION 702-3.4

Locate and seal any thermal bypasses or chaseways. Determine how to best deal with ceiling height changes prior to insulating, and use appropriate techniques.

thermal bypasses
702-3.4a

Install a working damper with positive closure on any appliance that exhausts to the outside if one does not exist, or exists but is not in working order.

exhaust appliances
702-3.4b

blocking around electrical devices
702-3.4c



Block around recessed lights without an IC rating and other electrical devices such as fan units. Blocking must be at least as high as the finished insulation product, and must be installed in such a manner so that devices remain accessible for service or maintenance after the insulation is installed. A minimum clearance of 3 inches must be maintained between the fixture and the insulation.

blocking around metal flue pipes
702-3.4d

Block around metal flue pipes and chimneys with fire-rated material maintaining clearance from combustible materials in accordance with NFPA requirements.

no roof vents
702-3.4e

Do not install roof venting in mobile homes. Leave any existing venting as it is.

damaged structural components
702-3.4f

Repair or replace any damaged structural components prior to insulating. Ensure that the ceiling will safely hold the weight of added insulation. Repair or replace any missing, weakened, or damaged ceiling component, using compatible materials. When walking or working on the roof of a mobile home, a walkboard must be used at all times.

CEILING INSULATION 702-3.5

ceiling insulation, allowable techniques
702-3.5a

If attic insulation is called for, determine which attic insulation technique to use. There are four allowable options: The Side Lift Method, the Interior Method, the Bowstring Truss Roof Method, and the Pitched Shingle or Metal Roof Method.

side lift
702-3.5a.i



- i. Side Lift Method:
 - Remove the gutters, trim, and roof fasteners. It may be necessary to remove plumbing and heating vent stacks.
 - Lift the edge of the roof and slide wedges under it to expose the cavity to be insulated. Use a rigid ABS plastic tube to install the loose fill insulation.
 - When completed, re-secure the roof and all trim, gutters, and stacks. Seal or coat as necessary to prevent moisture from entering the cavity.

Do not attempt the side-lift method in excessively rainy or windy conditions.

interior drilling
702-3.5a.ii

- ii. Interior Method:
 - Cover the floors and all furniture with 6 mil polyethylene or drop cloths prior to beginning.

- Drill 2 inch holes in the interior ceiling surface in an adequate number of places to ensure complete insulation coverage.
- Install a flexible tube into the hole to install loose-fill insulation. Block around heat producing devices. NOTE: In addition to covering the floors and furniture, the area where insulation is being installed must be sealed off from the rest of the structure.
- Patch holes with plastic plugs and an acceptable interior sealant.

interior drilling (con't)

702-3.5a.ii

iii. Bowstring Truss Roof

- Center 10" square holes in the middle of the metal roof on top of every other truss to allow access to roof cavities on both sides of the truss. Cut through the metal, taking care to avoid cutting wiring or cutting into or through the roof truss.
- Remove existing roof coating from the area to be cut out *prior* to cutting through the metal roof to provide a clean surface for the new patch to adhere to.
- Install fiberglass insulation through a 2" or a 2 1/2" inside diameter (ID) blowing hose to a density of 1.6 pounds per cubic foot, filling the cavity entirely.
- Apply a patch cut from a compatible material that is 4" larger on each side than the opening (bowstring truss roofs are commonly covered with galvanized sheet metal.) Apply a generous bead of a high quality, copolymer adhesive designed for metal-to-metal bonding to the perimeter of the hole. Center the patch over the hole and secure the patch to the roof with #6 or #8 x 1/2" or 3/4" sheet metal screws. Do not screw patches to the trusses. Do not use sealants such as roof cement or silicone caulk. Trim away excess sealant.
- Apply a layer of rubberized asphalt membrane to the perimeter of the patch with approximately 2" overlapping onto the old roof surface (ensure that the adhesive backed asphalt tape adheres to a clean, dry surface).

bowstring truss roof

702-3.5a.iii

**bowstring truss roof
(con't)**

702-3.5a.iii

- Apply a coat of elastomeric roof coat (not aluminized roof coating) to the patched area. Check the manufacturer's recommendations for drying requirements.

**pitched shingle or
metal roof**

702-3.5a.iv

- iv. Pitched shingle or metal roof
- Verify that the roof pitch is sufficient for roof vents to be installed.

Note any changes in interior ceiling elevation (flat and cathedral ceilings) and record the appropriate measurements. Also, determine, measure and record the location of any exhaust fans that vent through the roof.

- Ensure that exhaust and plumbing venting materials are securely fastened.
- Cut roof vents into one slope of the roof as close to the ridge as possible, spacing them approximately 6' apart.
- Install blown fiberglass into the attic area using a 3" ID hose. Do not fill the area to capacity. Install an even blanket that will allow room for air movement between the top of the insulation and the roof. Ensure complete coverage over the top plate, and against the interior walls where the interior ceiling changes from flat to cathedral.
- Install attic insulation. Place a large piece of fiberglass batting inside the vent hole, to keep the blown insulation from clogging the vent.
- For metal roofing, apply a copolymer adhesive to the perimeter of the hole. Attach the vent with sheet metal screws (# 6 or # 8 x ½" or ¾") spaced every 2-3 inches. Do not screw patches to the trusses. Install a rubberized asphalt membrane prior to applying a neat application of white, elastomeric roofcoating to the perimeter of the vent as an added precaution against water leakage.
- If called for, insulate the attic to the required amount. If using blown-in fiberglass, ensure complete coverage.

**required amount of
insulation**

702-3.5b

**certificate of
insulation**

702-3.6a

CERTIFICATE OF INSULATION 702-3.6

Post a consumer information card or certificate of insulation which complies with OAC 109:4-3-14 on, or adjacent to, the electric service panel.