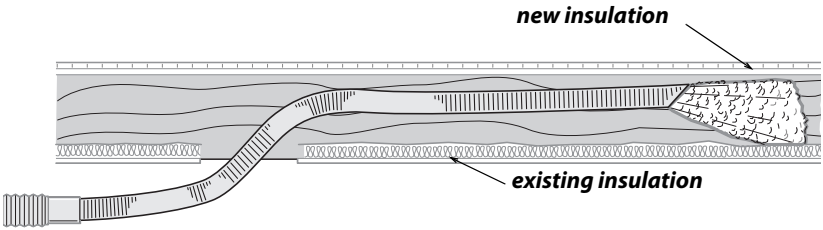
SATURN

RESOURCE MANAGEMENT

11.4.3 Mobile-Home Floor Insulation

SWS Details:4.0302.9 MH - Blown Belly Insulation; 4.0301 Accessible Floors; 4.0302 Exposed Floors; 4.0301.1 Batt Insulation in Joisted Cavities; 4.0301.2 Loose Fill With Netting/Fabric in Joisted Cavities; 4.0301.3 Loose Fill in Joisted Cavities With Rigid Barrier

Mobile-home floor insulation is a good energy-saving measure in cool climates. The existing insulation usually fastens to the bottom of the floor joists, leaving much of the cavity uninsulated and subject to air convection. This greatly reduces the insulation's R-value. Blown-in belly insulation also tends to reduce duct leakage.



Blowing bellies: A flexible fill-tube, which is significantly stiffer than the blower hose, blows fiberglass insulation through a hole in the belly from underneath the home.

Preparing for Mobile-Home Floor Insulation

Before installing floor insulation, inspect the floor and do these repairs.

- ✓ Repair plumbing leaks.
- ✓ Seal all holes in the floor.
- ✓ Inspect and seal ducts.
- ✓ Repair the underbelly for both airtightness and support of insulation.
- ✓ Install a 6-mil ground-moisture barrier in the crawl space.
- ✓ Verify that gas, water, and electrical lines are secured at least every 4 feet to a floor joist or framing member.
- ✓ Identify any plumbing lines, and avoid installing insulation between them and the living space if freezing could be an issue. This may require running a piece of belly-paper under the pipes, and insulating the resulting cavity. This cavity bundles the pipes into the dwelling's heated envelope.
- ✓ Select insulation that has a flame spread and smoke development index of 25/450 or less.

Patching a flexible belly: The technicians uses both adhesive and stitch staples to fasten a patch.

Blowing a floor through the belly: The contractor inserts a rigid fill tube through the belly to blow insulation into the floor cavity and underbelly.

Blowing Insulation into Floors

Two methods of blowing insulation into mobile-home floors are common. Blown fiberglass is recommended over cellulose for either method.

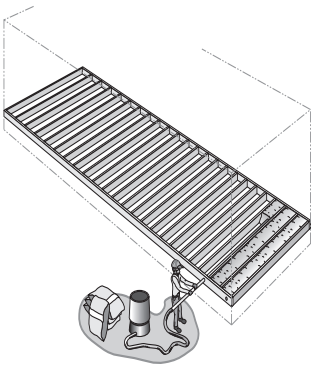
1. Drilling through the 2-by-6 rim joist and blowing fiberglass through a rigid fill tube into the belly.
2. Blowing fiberglass insulation through a flexible fill tube or a rigid fill tube into the floor cavity through the underbelly.

When blowing through holes from underneath the home, consider blowing through the underbelly's damaged areas before patching them. After blowing insulation, patch all preexisting holes and access holes in the belly.

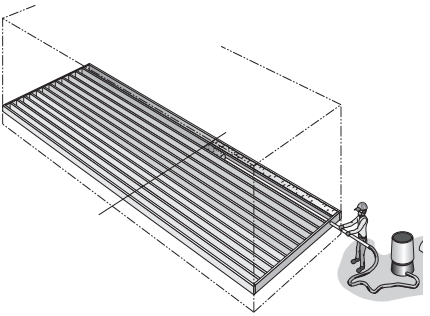
Installing Fiberglass Batts in Floors

Unfaced fiberglass batts may also be used to insulate floor sections where the insulation and under belly are missing. This is a good approach when it isn't cost-effective to insulate the entire belly.

Secure batts using fasteners and structural supports that don't over-compress the insulation and that have a minimum service life of 20 years — strapping, netting, wood lath, for example.



Blowing crosswise cavities: Blowing insulation into belly is easy if the floor joists run crosswise. However, the dropped belly requires more insulation than a home with lengthwise joists.



Blowing lengthwise cavities: Floors with lengthwise joists can rarely be filled completely from the ends because of the long tubing needed. The middle can be filled from underneath.