# Mobile Home Belly Retrofit

# Weatherization Installer/Technician Mobile Homes

Learning Objectives

By attending this session, participants will become aware of:

* The benefits of insulating the belly cavity.
* Important factors to consider before insulating.
* Mobile home floor components.
* Belly preparation methods.
* Specialized tools and materials for sealing the belly cavity.
* Methods for gaining access to the belly cavity.
* Insulation methods and techniques.

Key Terminology

Belly blow

Deferral of services

Fill tube

House wrap

Mobile Home Energy Audit (MHEA)

Mobile home belly

Rim joist

Vapor permeable

Vapor retarder

Supplemental Materials

Handouts & Resources

Greely, Kathy, John Randolph, and Bill Hill. “A Warm Wind Blows South: Virginia's Weatherization Evaluation.” *Home Energy* Jan./Feb. 1992: 15-21. www.homeenergy.org.

Loose-Fill Insulation Coverage Chart

Mobile Home Tool and Material List for Duct Sealing, Air Sealing and Insulation Retrofits

Scott, Bob, and Lyn M. Bartges. “Weatherizing Mobile Homes.” *Home Energy* July/Aug. 2004. www.homeenergy.org.

US DOE WAP, Midwest Regional Field Office. *Midwest Weatherization Best Practices Field Guide* May 2007: 191-194.

Classroom Props & Activities

* Various types of insulation: loose-fill fiberglass, cellulose, rigid foam (showing R-value per inch).
* Samples of various belly patching and insulation materials:
  + House wrap, i.e. Typar, for covering large sections of belly
  + “Flexmend” Belly Patch for covering small to medium-sized holes
  + Foil-backed insulation board for covering medium-sized holes
  + Lathe strips for reinforcing the belly
  + Drywall screws with deck washers for attaching lathe strips and insulation to the floor framing
  + Aluminum coil stock for general sealing
  + Foam sealant for sealing small holes around plumbing or electrical penetrations
  + Bubble foil for sealing small holes around plumbing or electrical penetrations
  + Spray adhesive for gluing sheet materials to the existing rodent barrier
  + Stitch and regular staple
* Samples of specialized tools including:
  + Fill tube
  + Personal protective equipment
  + Stitch stapler
  + Drills and specialized bits
  + Fastener
* Insulation equipment:
  + A multi-fiber, high-capacity blowing machine
  + 200 feet of insulation hose in a variety of diameters
  + 70 feet of low grade 2” PVC pipe sections
  + Cellulose or fiberglass
  + 2¼” wood plugs (rim joist)
  + 2¼” wood boring bit (rim joist)
  + Duct tape
  + Scrap fiberglass
  + Directional nozzle (belly method)

Class Overview

* Use the presentation, discussion, and handouts to introduce students to the key elements of preparing and insulating a mobile home belly cavity:
  + Deciding whether belly insulation is possible.
  + Patching the rodent barrier.
  + Sealing all penetrations to the living space.
  + Accessing the belly cavity.
  + Insulating the belly cavity.
* Use props, demos, or video footage to reinforce technical aspects. Have students handle sample tools and materials whenever possible. Encourage students to ask questions and share anecdotes from the field.