



# BPI Manufactured Housing Testing Knowledge List

MODULE	TASK/SKILL DESCRIPTION
<b>BUILDING SCIENCE</b>	
1	Calculate area
1	Calculate volume
1	Definition of density
1	Calculate insulation bag counts for enclosed cavity installation to proper density
1	Definition of effective R-value
1	Understand effects of wind intrusion related to insulation performance
1	Understand how duct design and performance contributes to pressure imbalances in buildings
1	Identify techniques to relieve room to room pressure imbalances
1	Identify common moisture sources in mobile homes
1	Understand moisture transport mechanisms in buildings
<b>AUDITING SKILLS</b>	
2	Estimate costs of installed measures
2	Estimate labor requirements for installation of measures
2	Predict results of installed measures
2	Prioritize installation of measures unique to mobile homes
2	Evaluate cost-effectiveness of measures
2	Develop a work scope based on audit results
2	Identify typical mobile homes structural systems
2	Identify components of mobile homes structural and envelope systems
2	Identify typical mobile homes mechanical systems (heating, hot water, ventilation)
<b>INSPECTION AND DIAGNOSTIC SKILLS</b>	
3	Identification and diagnosis of moisture issues
3	Inspect and test electrical circuits for proper polarity and GFI
3	Visual inspection procedures for ductwork
3	Pressure pan test
3	Room to room pressure diagnostic test procedures

3	Insulation density inspection/verification
3	Belly inspection procedures
3	Interior inspection procedures
3	Wall cavity inspection procedures
3	Roof cavity inspection procedures
3	Window and door inspections for proper fit, operation, and performance
3	Visual spillage indicators
3	CO testing mobile homes furnaces
3	CO testing mobile homes water heaters
3	CO testing gas/propane cook stoves
3	Mechanical ventilation inspection and diagnostic evaluation

**INSTALLATION SKILLS**

4	Crew management: supervision, job assignments, perform work himself
4	Project management
4	Materials inventory management
4	Decision-making for installation techniques, including when barriers arise
4	Specify change orders to work scope, often as the job is in progress
4	Installation progress tracking: bag count, timing, verify integrity of installation
4	Mitigation of moisture problems
4	Duct sealing materials selection
4	Duct sealing techniques
4	Duct sealing procedures and applications
4	Belly patch materials selection
4	Belly patch techniques
4	Belly patch procedures and applications
4	Belly insulation materials selection
4	Belly insulation installation techniques
4	Belly insulation procedures and applications
4	Roof insulation materials selection
4	Roof Insulation installation techniques

4	Roof insulation procedures and applications
4	Roof sealing and weatherproofing materials selection
4	Roof sealing and weatherproofing techniques
4	Roof sealing and weatherproofing procedures and applications
4	Sidewall insulation materials selection
4	Sidewall insulation installation techniques (blown and stuffed)
4	Sidewall insulation installation procedures and applications
4	Storm window installation procedures and applications
4	Air sealing limits/standards
4	Air sealing measure prioritization
4	Mechanical ventilation requirements
4	Room to room pressure balancing techniques
4	Room to room pressure balancing procedures and applications
4	Combustion air requirements
4	Combustion air installation procedures and applications
4	Mechanical closet compartmentalization techniques
4	Mechanical closet compartmentalization procedures and applications
4	Client instruction on use of heat tape to keep pipes from freezing

**HEALTH AND SAFETY**

5	Visual inspection for health and safety issues in the mobile home
5	Job safety: enforcement of OSHA requirements
5	Personal safety procedures
5	Scaffolding requirements, procedures, and applications
5	Egress requirements for working under mobile homes
5	Use of moisture barriers to cover contaminated areas when working under mobile homes
5	Identification of mobile home water heater fuel switch valve
5	Identification of aluminum wiring
5	Procedures and applications for monitoring ambient CO during testing
5	Application of BPI CO allowable limits and action levels
5	CO detector requirements and applications

5	Restriction on use of woodstoves in mobile homes
5	Procedures and applications for protection from static electricity charges when blowing insulation
Technician	
	Know when to get in touch with specialist
	Mechanics of installations
	Understand proper use of materials
	Identification of problems, moisture, barriers, etc.
	Physical requirements: climb ladders, crawl under belly, carry 30 #'s, etc.
	Troubleshoot installation problems/barriers for referral to Specialist
	Personal safety procedures
	Basic safety inspection