



## Residential Weatherization Specifications Updated

On August 30, 2011, the Regional Technical Forum (RTF) approved an update to the Residential Weatherization Specifications as part of the RTF's three-year revision cycle for specifications.

Revised Residential Weatherization specifications were initially presented to the RTF by the RTF Weatherization subcommittee on June 28th. The RTF reviewed and discussed the revised specifications, made minor revisions and requested that they be posted for Public Comment for a 30-day review period. In subsequent meetings, the RTF reviewed all comments, and approved the updated Residential Weatherization specifications at the August 30th meeting.

Over the next six months, BPA will work with public utilities to determine how we will implement the updated weatherization specifications. The following summary provides an overview of changes. For further details, please refer to the complete Residential Weatherization Specifications located on the RTF website.

### Summary of Changes

#### General Specifications

Added requirements for:

- Inspection rate and inspector certification
- Manufactured home supply air for combustion appliances
- Consumer Indoor Air Quality information disclosure

Deleted requirements for:

- Utility documentation (provided in the BPA Implementation Manual)

Moved requirements for:

- Exhaust fan venting to Mechanical Ventilation section

- Air sealing to Air Sealing & Testing section
- Foam plastic insulation combustion barrier to General Materials section
- Knob and tube wiring to General Weatherization section

#### General Material Specifications

Added:

- Clarification of materials regulations and installation requirements
- Installer requirement to send project details to utility

#### General Weatherization Requirements

Added requirements for:

- Covering exposed insulation in human contact areas
- Electrical wiring
- Documentation of combustion appliance with proper venting to the outdoors
- Carbon monoxide detectors

#### Attic and Roof Insulation

All attic insulation and both interior and exterior roof applications have been combined in this section.

Added requirements for:

- Prescriptive air sealing<sup>1</sup> and duct sealing
- Preparation and debris removal
- Eave and soffit vent baffles
- "Dams" separating insulated and un-insulated areas
- Interior and exterior attic access doors
- Pull-down stairs
- Conditioned walls beside attic areas
- Applications of loose fill, fibrous batt and foam plastic insulation



- Vented and unvented vaulted ceilings
- Attics with floor areas used for storage
- Water management and recessed lighting for exterior roof insulation
- In progress inspection for exterior roof insulation

### **Manufactured Home – Ceiling and Roof Insulation**

Added:

- Definition of a Manufactured Home
- Definition of Ramada roof and requirements for insulation around lighting

### **Site Built – Underfloor Insulation**

Added requirements for:

- Prescriptive air sealing and duct sealing
- Insulating exposed ducts
- Preparation and debris removal
- Management of water issues
- Exhaust ventilation and dryer ducts
- Insulating and weather-stripping access doors
- Insulation to be in contact with subfloor
- Sealing and insulating walls
- Rim joist insulation
- Underfloor insulation support (no hand stapling)
- Use of spray foam insulation

Deleted:

- Minimum insulation levels or R-values

### **Site Built – Exterior Perimeter Insulation**

This section was deleted from the new specifications.

### **Manufactured Home – Underfloors**

The requirements in this section are substantially the same with minor additions and deletions.

Added requirements for:

- Treatment of homes lacking a rodent barrier
- Use of blown floor insulation

Deleted:

- In-progress inspection

Moved:

- Mechanical ventilation systems requirements

### **Wall Insulation**

Added requirements for:

- Minimum R values for 4” unfinished walls (increased to R15)
- Vapor retarders and fiberglass insulation in unfinished walls
- Filling all wall cavities including small areas around windows and doors
- Not filling wall cavities that serve as ducts
- Installation and material choice for wall plugs
- Use of non-combustible materials in cavities adjacent to fireplaces and chimneys
- Use of foam insulation in wall cavities

Deleted:

- Description of how contractor may access wall cavity
- Progress inspection requirements

### **HVAC Duct Sealing and Insulation**

Added requirements for:

- Addressing un-insulated flex duct
- Duct insulation material to have an approved vapor barrier and flame-spread rating

### **Manufactured Homes – HVAC Duct Sealing and Insulation**

Added requirements for:

- Elevating crossover ducts from ground contact

### **All Homes – Hydronic and Water Pipe Insulation**

Added requirements for:

- Pipe insulation specifications and application

### **All Homes – Prime Windows, Sliding Glass Doors, and French Door Replacements**

The requirements in this section have been substantially reorganized and edited for clarity.

Added requirements for:

- Following manufacturers installation instructions
- Removing sash weights and insulating the cavity
- Use of safety glazing when required by state or local code
- Presence of screens on all operable windows
- Use of non-expanding foam or caulk and window trim over any gaps between window and siding greater than 3/8 inch
- Use of block or finless, surface-mounted, cut-out, stucco or brick-mounted windows
- Patio doors to be firmly supported within 1/2 inch of exterior edge of door frame
- Use of pressure treated wood in cases of contact with ground or concrete

Deleted:

- Weighted average of window U-factor removed (addressed in program materials)
- Prohibition on increases in window area
- Requirement that windows be free of burrs or sharp corners

Moved:

- Mechanical ventilation references for manufactured home moved to Mechanical Ventilation section

### **Whole House Air Sealing<sup>2</sup> & Testing**

This section is entirely new and was previously covered in a separate specification. **NOTE: This section refers to whole house air sealing, not prescriptive air sealing.**

Added requirements for:

- Certification of technicians
- Pre and post blower door test (when claiming air sealing as a measure)
- Use of the Air Sealing Checklist (see Appendix)
- Air leakage testing protocols with blower doors

- Combustion Appliance Zone (CAZ) testing
- Addressing drainage needs when sealing floor and plumbing penetrations

### **Mechanical Ventilation**

This section is entirely new. Previously, mechanical ventilation was only required when installing weatherization measure in manufactured homes. Site built homes were not covered in the old specifications.

Added requirements for:

- Whole house air sealing vs. prescriptive air sealing
- Spot ventilation (bath and kitchen fans)
- Prescriptive exhaust fan duct sizing
- Whole house mechanical ventilation

### **Appendices**

A detailed appendix has been added to provide useful reference material.

### **Glossary**

The glossary provides definitions for terms commonly used in the document.

### **RTF Specification**

To view the updated RTF specification, visit <http://www.nwcouncil.org/energy/rtf/subcommittees/res/>

### **Contacts**

For BPA Weatherization Program Questions:

Mark Johnson, BPA Program Manager

(503) 230-7669

<sup>1</sup> Prescriptive air sealing follows a checklist and does not require a blower door or mechanical ventilation

<sup>2</sup> Whole house air sealing is blower door-assisted and does require that minimum ventilation is met.