



# MER Authorized Insulation Contractor Program Quality Assurance Scoring Guide

The QA assessor will score jobs for work quality to verify crew leader compliance with program standards. **This is not an assessment of the work scope. Only details described in the work scope will be scored.** However, major bypasses must always be air sealed before any insulation is installed. When the work scope text is vague, the QA assessor will infer and score details required by program standards. Examples include, but are not limited to:

1. "Insulate Attic to R49"  
Score: Specified product, depth, R-value; depth marker(s), attic card(s) and chart(s); air seal and prep. complete.
2. "Insulate Attic Access"  
Score: R-value matches or is close to attic R-value, is secure on panel, access is air tight, has approved dam.
3. "Treat non-IC lights/fans"  
Score: Insulation clearance is primary; air seal is secondary and scored if treatment called for on work scope.
4. "Insulate Knee Walls"  
Score: Insulation meets program standard, if batts - house wrap installed properly, knee wall bypass sealed.

Work quality will be scored using visual appearance, chemical smoke movement and infra red camera image. The QA assessor may use more than one of these indicators to confirm work quality scores.

Work scope details deferred by the crew will be listed as a "fail" unless crew documentation provided. Work scope details scored as "fail" require contractor callback to correct the issues. Corrections are to be completed within two weeks of notice, unless extenuating circumstances documented. Contractor must act on any safety related corrections as soon as contractor receives notice from QA inspector.

## **QA Scoring Elements:**

### **Crew CFM50 test:**

Pass: QA test confirms reported test value is within 15% of crew reported value.

Fail: QA test could not confirm reported value.

### **Crew combustion safety test:**

Pass: QA test confirms reported value.

Fail: QA test could not confirm reported value.

## **Works Scope Details related to Program Standards:**

### **(V) Visual:**

Pass: complies with work scope and program standards.

Conditional Pass: treatment substantially completed or has minor inconsistencies.

Fail: incomplete, loose, non-conforming material; on heat source, on Knob & Tube, in A/C drain pan, etc.

### **(S) Smoke movement with blower door at CFM50:**

Pass: no indication of smoke movement.

Conditional Pass: indication of slight smoke movement at 1" – minor air flow.

Fail: indication of smoke movement greater than 1" away – major air flow.

### **(IR) Infra Red view with blower door at CFM50:**

Pass: no indication of voids or air flow.

Conditional Pass: indication of minor inconsistencies, insulation voids or air flow.

Fail: indication of major inconsistencies, insulation voids or major air flow.

## Work Scope Detail per Program Standards

Scoring indicators – **V**: Visual, **S**: Smoke, **IR**: Infra red

### 1. and 2. Attic Open Blow – Level, Specified R-value installed

Pass **V**: uniform installation and work scope depth and R-value installed.

Cond Pass **V**: non-uniform installation, all areas within 3” of work scope depth and within 10% of R-value.

Fail **V**: voids or areas more than 3” below work scope depth or more than 10% under R-value.

### 3. Attic Insulation Depth Markers Installed 1/100 square feet, each marked at minimum installed thickness

Pass **V**: 1 one marker per 100 square feet attic area and viewable from attic access.

Cond Pass **V**: two or more markers in attic space, but fewer than required; and viewable from attic access.

Fail **V**: no markers present.

### 4. Attic Insulation Card and Manufacturers Insulation Coverage Chart Installed Every Access Point

- **On Card: installer name & company, install date, insul. type, installed R-value, installed depth, # bags, attic area.**

Pass **V**: provide completely filled out insulation card with insulation coverage chart at each attic access point.

Cond Pass **V**: only 1 insulation card and coverage chart, and there is more than 1 attic access point or attic area.

Fail **V**: no coverage chart or no insulation card, or insulation card(s) not completely filled out.

### 5. Vent Chutes / Roof Vents / Soffit Vents Installed

Pass **V**: all chutes and vents installed per work scope and are clear and open.

Cond Pass **V**: all chutes and vents installed and are more than 50% open.

Fail **V**: chutes and vent installation incomplete, or are less than 50% open.

### 6. Attic Access Insulated

Pass **V**: insulation R-value more than 50% of adjacent value, approved product, secured to panel.

Cond Pass **V**: insulation R-value 50% of adjacent value, approved product, insulation secured to panel.

Fail **V**: incomplete, detached from panel, non-conforming material, or R-value less than 50% of adjacent value.

### 7. Attic Access Sealed and Secure

Pass **V**: access is operable, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: access is operable, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: access inoperable, treatment incomplete, **S**: major air flow, **IR**: major air flow.

### 8. Dams: Heat / Access / Storage / Transition / Mechanical Installed

Pass **V**: installed with required clearance, above insulation height.

Cond Pass **V**: installed with required clearance, at insulation height.

Fail **V**: no dam, non-conforming material used, no clearance, blown insulation in dam, below insulation height.

### 9. Non-IC Lights or Fans: Dammed / Boxed / Sealed

- **insulation clearance is primary; air seal expected when sufficient access and feasible**

Pass **V**: clearance maintained; airtight box installed; **S**: no movement, **IR**: no air flow.

Cond Pass **V**: clearance maintained; airtight box installed; **S**: minor air flow, **IR**: minor air flow.

Fail **V**: Clearance not maintained, non-conforming material used, **S**: major air flow, **IR**: major air flow.

## Work Scope Detail per Program Standards

Scoring indicators – **V**: Visual, **S**: Smoke, **IR**: Infra red

### 10. Open & Exterior Wall Tops & Attic Transitions Sealed

Pass **V**: treated, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **IR**: minor air flow.

Fail **V**: incomplete, **IR**: major air flow.

### 11. Plumbing Vents & Wet Walls Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow.

### 12. Chimney Penetration(s) Sealed

Pass **V**: non-combustible sealant/packed with non-combustible material, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access packed with non-combustible material, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, no clearance, non-conforming material used, **S**: major air flow, **IR**: major air flow.

### 13. Electrical Penetrations Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow.

### 14. Mechanical Chases Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, no access issues, **S**: major air flow, **IR**: major air flow.

### 15. Attic Ducts & Boot Penetrations Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, no access issues, **S**: major air flow, **IR**: major air flow.

### 16. Drop Soffit Sealed

Pass **V**: treated, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **IR**: minor air flow.

Callback **V**: incomplete, no access issues, non-conforming material used, **IR**: major air flow.

### 17. Exhaust Fan Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, non-conforming materials used, **S**: major air flow, **IR**: major air flow.

## Work Scope Detail per Program Standards

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### 18. Exhaust Fan Air Flow, Duct & Termination

- **see ASHRAE 62.2 2004 table 4.1 (I-P) for minimum continuous exhaust fan air flow requirements**

Pass **V**: Flow measures within 10% of full rated flow and installation meets program requirements.

Cond Pass **V**: Fan meets ASHRAE 62.2 minimum flow or installation substantially meets program requirements.

Fail **V**: Flow less than 75% of rated, or flow less than 62.2, or installation does not meet program requirements.

### 19. Knee Wall Bypass Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow.

### 20. Built-in / Tub Wall Sealed

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow.

### 21. Knee Wall R-value Installed

Pass **V**: R-value installed meets work scope, **IR**: installation complete.

Cond Pass **V**: limited access but substantially completed, **IR**: minor inconsistencies.

Fail **V**: incomplete, **IR**: major inconsistencies.

### 22. Knee Wall House Wrap Installed

Pass **V**: in-place, continuous and secure.

Cond Pass **V**: limited access but substantially completed or minor inconsistencies.

Fail **V**: incomplete, major inconsistencies.

### 23. Knee Wall / Stem Wall Foam Board Installed

- **if attic area used for active storage: product is approved for uncovered use or has a thermal barrier**

Pass **V**: R-value installed complete with perimeter and joint seal, framing cavity full.

Cond Pass **V**: limited access but substantially completed, minor inconsistencies (i.e.: not all joints sealed)

Fail **V**: incomplete, or product not approved for uncovered use.

### 24. Floored Attic Dense Packed

Pass **V**: installed, **IR**: indicates complete and consistent fill, and no air flow.

Cond Pass **V**: limited access but substantially completed, **IR**: minor inconsistencies.

Fail **V**: no access issues, major inconsistencies, **IR**: major inconsistencies, gaps or voids.

### 25. Slant Walls Dense Packed

- **when allowed by local code official**

Pass **V**: bottom closed, **IR**: indicates complete.

Cond Pass **V**: limited access but substantially completed, **IR**: minor inconsistencies.

Fail **V**: bottom open, **IR**: major inconsistencies, gaps or voids.

## Work Scope Detail per Program Standards

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### 26. Stair Wall & Treads Dense Packed

Pass **V**: installed, **S**: no movement, **IR**: installation complete and no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor inconsistencies or air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow or inconsistencies.

### 27. T&G Paneling / Acoustic Tile Sealed

- **seal: perimeter, hips, valleys, roof/wall, baseboard – with Homeowner approval**

Pass **V**: treated, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete **S**: major air flow, **IR**: major air flow.

### 28. Side Walls Dense Packed

Pass **IR**: no voids and no air flow.

Cond Pass **IR**: voids are less than 1% of wall area, minor air flow.

Fail **IR**: voids more than 1% of wall area, excluding narrow ( $\leq 2$ " )cavities, or air flow into interior framing.

### 29. Insulation Hole Patch/Cladding Install Acceptable

Pass **V**: all holes plugged, no siding issues.

Cond Pass **V**: all holes plugged, minor siding issues.

Fail **V**: holes open or major siding issues.

## Work Scope Detail per Program Standards

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### 30. Eyebrow Roof / Cantilever Floor Dense Packed

Pass **IR**: indicates no voids and area is continuous with adjacent wall.

Cond Pass **V**: limited access but substantially completed, **IR**: minor inconsistencies.

Fail **IR**: incomplete, major inconsistencies.

### 31. Floor Above Unconditioned Space Dense Packed / Sealed (eg: Tuck Under Garage Ceiling)

- **Safety issue - Garage: combustion product entry hazard**

- **Treatment Option: dense pack floor/ceiling perimeter, and seal all floor/ceiling penetrations and joints.**

Pass **V**: installed and all penetrations and ducts sealed, **S**: no movement, **IR**: no voids or air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor inconsistencies or air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major inconsistencies or air flow.

### 32. Garage Wall Sealed to House

- **Safety issue - Garage: combustion product entry hazard**

Pass **V**: installed, all penetrations sealed, **S**: no movement, **IR**: no air flow.

Cond Pass **V**: limited access but substantially sealed, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major air flow.

## Work Scope Detail per Program Standards

Scoring indicators – **V**: Visual, **S**: Smoke, **IR**: Infra red

### 33. Rim Joist / Foundation Wall Sealed & Insulated

Pass **V**: R-value installed meets work scope, **S**: no movement, **IR**: no gaps, voids or air flow.

Cond Pass **V**: limited access but substantially completed, **S**: minor air flow, **IR**: minor inconsistencies or air flow.

Fail **V**: incomplete, **S**: major air flow, **IR**: major inconsistencies or air flow.

### 34. Crawl Space Ground Cover & Wall Insulated

Pass **V**: 100% ground cover coverage, scope R-value installed, **IR**: no wall insulation gaps or voids.

Cond Pass **V**: limited access but covered as possible, **IR**: minor inconsistencies or air flow.

Fail **V**: incomplete, **IR**: indicates major inconsistencies or air flow.

### 35. Other / Atypical Treatment

Pass **V**: installation meets work scope, **S**: no movement, **IR**: no voids or air flow.

Cond Pass **V**: limited access but substantially completed, minor issues, **S**: minor air flow, **IR**: minor air flow.

Fail **V**: incomplete, unapproved product, **S**: major air flow, **IR**: major inconsistencies or air flow.