

**RESNET**<sup>®</sup>  
RESIDENTIAL ENERGY SERVICES NETWORK

2019  
Conference  
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# 2019 RESNET Instructor Roundtable

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# Presentation Agenda

## ANSI/RESNET Standard Changes

- ▷ Insulation Grading
- ▷ Onsite Inspection Protocol
- ▷ Home Energy Survey Professional (HESP)

## Exam Updates

- ▷ National Rater Test
- ▷ QAD/Instructor Test
- ▷ RESCAZ
- ▷ Rater Practical SIM
- ▷ HESP

## Lessons From 2018 Field QA

# ANSI/RESNET Standard Changes

## *Transition Period*

The period of time beginning on the Effective Date, during which an amendment shall be **allowed**, but not required, to be used for any Dwelling Unit or Sleeping Unit.

## *Transition Period End Date*

The date that concludes the Transition Period. An amendment shall be **required** to be used for a Dwelling Unit or Sleeping Unit whose Building Permit Date is after this date.

# Insulation Grading

ANSI/RESNET/ICC 301  
2014 Addendum 2018  
Normative Appendix A

ANSI/RESNET/ICC 301  
2019

ANSI Approval Date  
January 11, 2019

Effective Date February 9,  
2019

Transition Period End Date  
July 1, 2019

# Insulation Grading: SIPs



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## A-2.2.1 Grade I (Minor Defects)

Shall meet the minimum installation requirements for SIP products above and the following requirements:

SIP panels shall be properly aligned and unsealed penetrations extending from the interior to exterior of the panels shall not be permitted.

2% or less of the total area of the SIPS panels have damage which is unrepaired, including but not limited to cutouts for electrical boxes, pipes and other penetrations.

# Insulation Grading: Open Cell SPF



# Insulation Grading: Open Cell SPF

## A-2.1.1.3 OpenCell Polyurethane Spray Foam Insulation (cavity filled and trimmed)

When installing open cell polyurethane spray foam, no more than 2% of the total insulated area (cavity) shall be below the thickness required to attain the specified thickness or contain gaps or voids in the insulation. The minimum installed thickness shall not be less than 1/2 inch below the specified thickness at any point. Voids extending from the interior to exterior of the intended insulation areas shall not be permitted.

# Insulation Grading: Closed Cell SPF



## Insulation Grading: Closed Cell SPF

### A-2.1.1.4 Closed Cell Polyurethane Spray Foam

When installing closed cell polyurethane spray foam the average of all thickness measurements shall be greater than the specified thickness required to obtain the specified R Value. No more than 2% of the insulated area shall contain voids or be greater than ½ inch less than the specified thickness. The minimum installed thickness shall not be less than ¾ inch below the specified thickness at any point. Voids extending from the interior to exterior of the intended insulation areas shall not be permitted.

# Insulation Grading: Insulated Sheathing



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## A-2.1.1.5 Insulated Sheathing

Insulated sheathing insulation installations meeting the minimum installation, application, and material requirements above. Voids exceeding 1/8" through interior to exterior of the intended insulation areas shall not be permitted. Joints and other gaps or separations in sheathing used as an air barrier, vapor retarder or drainage plane shall be taped or sealed.

# Insulation Grading: Reflective Insulation Materials



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## A-2.3.1 Reflective Insulation in Ceilings, Walls and Floors

Reflective insulation products include types with multiple layers, reflective bubble, and reflective foam. Refer to the manufacturer's instructions for the product's installation details.

The products shall be permitted to be either face or side (inset) stapled and shall be permanently attached to the framing member;

# Insulation Grading: Attic Radiant Barriers



# Insulation Grading: Attic Radiant Barriers

## A-2.3 Reflective/Radiant Grading Criteria

Regarding thermal performance claims-ValRes:

R-Value claims for the airspace adjacent to a reflective insulation product shall be based on average cavity depth (where not less than ½”), heat flow direction which represents the application (wall, ceiling or floor), temperature of the airspace surfaces relative to the specific wall assembly, location of the airspace in the assembly, and design climate conditions.

# On-site Inspection Protocol: Photos



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General		
Rated Feature	Task	On-Site Inspection Protocol
Applies to relevant Minimum Rated Features (MRF) from Table 4.5.2(1)	<p>Record field inspections and performance tests by digital/electronic means</p> <p>All records shall be kept for a minimum of 3 years</p>	<p>Clearly document the following:</p> <ul style="list-style-type: none"> <li>- The date and time of the inspection/test</li> <li>- The name of the Certified Rater, Approved Inspector, or Approved Tester conducting the inspection/test</li> <li>- The Dwelling Unit being inspected/tested containing sufficient detail to indicate the location of the inspection, including the address or unit number of the inspected/tested Dwelling Unit</li> <li>- If included in the Energy Rating and present in the Dwelling Unit, a minimum of one representative photo of items #2 (Wall Assembly); #3 (Roof/Ceiling Assembly); and either #11 (Heating Equipment), #12 (Cooling Equipment), or #14 (Service Hot Water Equipment) from Table 4.5.2(1) that reflect the reported data</li> <li>- If testing is conducted in the Dwelling Unit, a photo of the recorded test results or a report generated by automated software that communicates with the testing device showing the test result</li> </ul> <p>Each photo and/or report shall be time/date stamped and geotagged.</p>

# On-site Inspection Protocol: Solid State Lighting

## Qualifying Tier I Light Fixture



# On-site Inspection Protocol: Solid State Lighting

## Qualifying Tier II Light Fixture



# Home Energy Survey Professional (HESP)

Proposed Addendum 36  
Removes HESP from  
MINHERS

▶ Public Comment  
Closes 3/01/2019



## Exam Updates: National Rater Exam

- Going Live March 1, 2019
- Updated Exam Questions
- Housed on RESNET Test Portal
- Updated Security Features & Reporting

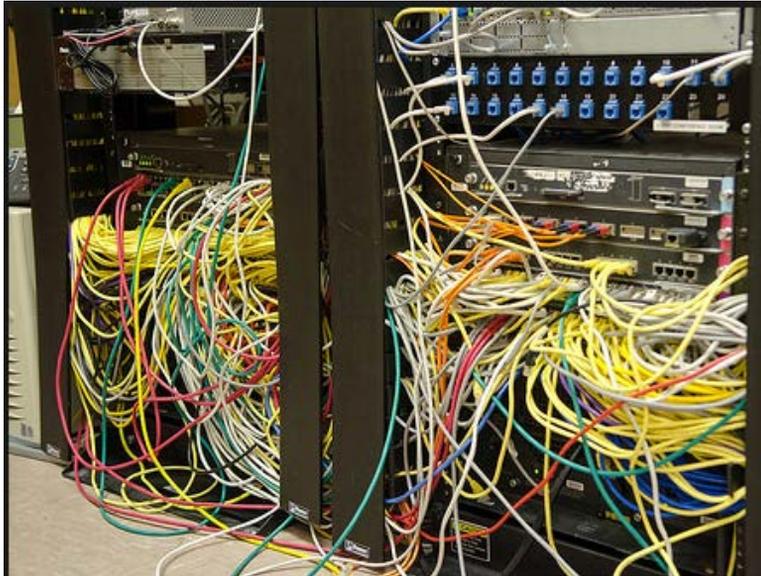


## Exam Updates: QAD/Instructor Exam

- New Fixed Forms Created
- Exam Working Group Review
- New Questions Being Drafted



# Exam Updates: RESCAZ & Rater Practical SIM



# Exam Updates: RESCAZ & Rater Practical SIM

- Major Overhaul of Underlying Programming
- Improved Manometer Response to Variables
- Testing Well Underway



# Lessons from 2018 Field QA

## LTO Test Exception Clarification (both Amendments D and L)

Effective Date 1/1/2018:  
ANSI/RESNET/ICC 301-2014 Addendum D-2017

Effective Date 1/1/2019:  
ANSI/RESNET/ICC 301-2014 Addendum L-2018.

### Addendum D Table 4.2.2(1) endnote (m):

(m) ~~Tested duct leakage shall be determined and documented by an Approved Tester using the protocols equivalent to those specified in~~ Duct leakage shall be tested by an Approved Tester in accordance with requirements of Standard ANSI/RESNET/ICC 380-2016 or equivalent to Section 803 of the Mortgage Industry National Home Energy Rating Systems Standards by an Approved Tester.

**Exception:** The requirement to test for duct leakage to the outside shall be waived, and the ducts shall be assigned 0 (zero) leakage to the outside, if both of the following conditions are visually verified by an Approved Tester at the final stage of construction<sup>1)</sup>:

- i. All ductwork and the air handler unit are completely within the Infiltration Volume of the home.
- ii. All ductwork is visible.

### Addendum L—Table 4.2.2(1) revised endnote (m):

When both of the following conditions are met and documented, duct leakage testing is not required.

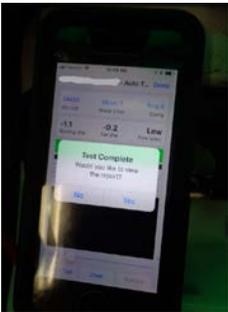
1. At a pre-drywall stage of construction, 100% of the ductwork and air handler shall be visible and visually verified to be contained inside the Conditioned Space Volume. At a final stage of construction, ductwork that is visible and the air handler shall again be verified to be contained in the Conditioned Space Volume.
2. At a pre-drywall stage of construction, the ductwork shall be visually verified to be 100% fully ducted, with no building cavities used as supply or return ducts.

To calculate the energy impacts on the Rated Home, a DSE of 0.88 shall be applied to both the heating and cooling system efficiencies.

# Lessons from 2018 Field QA

## Blower Door Testing

- ▶ take the Baseline P
- ▶ automated testing
  - ▶ TEC Auto Test
  - ▶ FanTestic
  - ▶ TECTITE Express 5.0
- ▶ correction factors
  - ▶ Don't double count Baseline P on correction tool

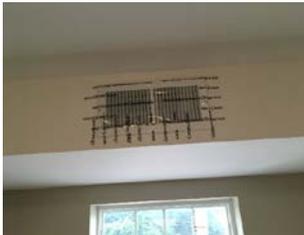


	Building Pressure (Pa)	Fan Config (Up-Down Arrow keys)	Fan Pressure (Pa)	Fan Flow (cfm)
#1	-60	Ring A	29.6	992
#2	-50	Ring B	213.3	965
#3	-40	Ring B	144.0	712
#4	-30	Ring B	91.0	567
#5	-20	Ring B	52.2	431
#6				
#7				

## Lessons from 2018 Field QA

■ Duct Testing Set-up—Sealing the Registers

■ Drywall to drywall? Register face only? Duct plugs? Vent Caps?



■ ANSI/RESNET/ICC 380.6:

4.2.8. Supply registers and return grilles shall be temporarily sealed at both the face and the perimeter. Registers atop carpets are permitted to be removed and the face of the duct boot temporarily sealed during testing. For homes without registers and grilles present<sup>20</sup>, the face of the duct boots shall be sealed instead.

# Lessons from 2018 Field QA

## Duct Testing Set-up— Pressure Probe Placement (tees)



ANSI/RESNET/ICC 380-16:  
▶ 4.3

ANSI/RESNET/ICC 380-2019:  
▶ 5.3



# Lessons from 2018 Field QA

## Ventilation Flow Testing Methods



# Lessons from 2018 Field QA

Correct Modeling of Lighting and Appliances (when not installed at final)

- ▷ Clothes Washers
- ▷ Clothes Dryers
- ▷ Refrigerators
- ▷ Dishwashers
- ▷ Lighting

ANSI 301-2014 4.2.2.5.2.8

- ▷ either look up specs for installed unit or use the default

If appliance is not installed at final, RESNET Standards state that appliance be modeled with the RESNET Default





# Thank you!

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