

RESNET[®]
RESIDENTIAL ENERGY SERVICES NETWORK

2019
Conference
New Orleans, LA • Feb 25-27

How the Sausage is Made:
**The RESNET Standards
Development Process**

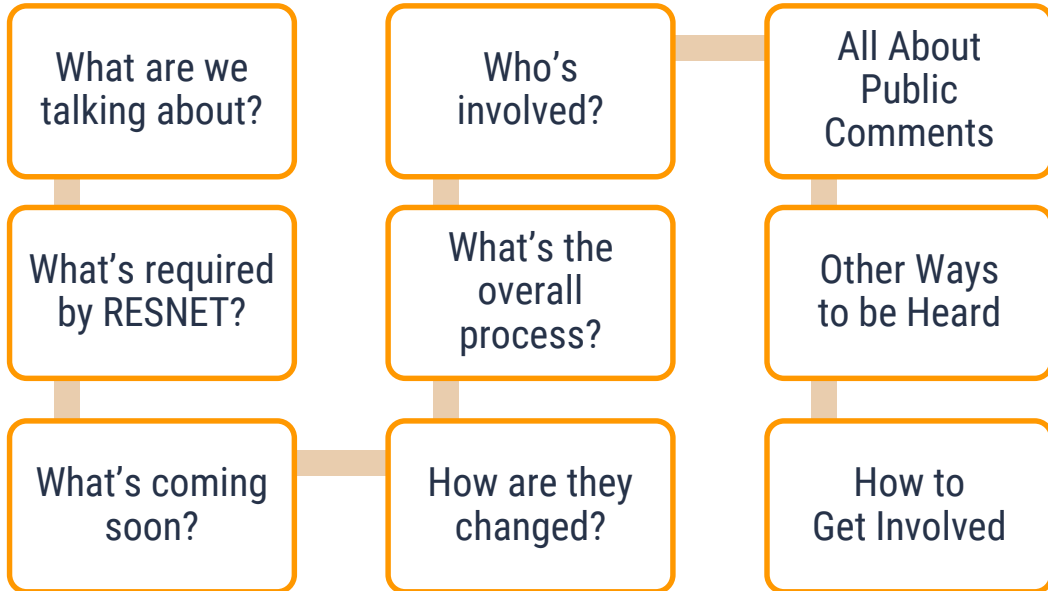
Thiel Butner and Rick Dixon

Acronyms



- ANSI = American National Standards Institute
- BoD = Board of Directors
- BSR = Board of Standards Review, an ANSI group
- ICC = International Code Council
- MINHERS = Mortgage Industry National Home Energy Rating System
aka “The RESNET Standards”
- MRF = Minimum Rated Feature
- QAD = Quality Assurance Designee
- SDC = Standards Development Committee, a RESNET group
- SMB = Standards Management Board, a RESNET group
- WER = Water Efficiency Rating, now HERS H20

Today's Conversation



Today's Conversation

- Who's involved?
- What's a standard?
What's a code?
- Non-ANSI and ANSI Standards
- What's currently required?
- What's Addendum 32?
- What's coming soon?
- What's the standards development process?
- How often do standards change?
- When is "public comment"?
- What is "open" for comment?
- What happens to public comments?
- How to submit comments
- How to craft great comments
- How to comment on closed language
- How to submit a proposal
- How to ask questions about standards
- How to get involved

Who's involved?

Volunteers supported by RESNET Staff



STANDARDS DEVELOPMENT AUTHORITY

RESNET is responsible for setting and maintaining the standards of quality for the inspection, testing and rating a home's energy performance. In its standards development process RESNET follows a consensus based process. This process is spelled out in the RESNET "Standards Development Policy and Procedures Manual."

The procedures involve a Standards Development Board, Standard Development Committees and Standard Development Subcommittees. The following are the roles of these groups:

RESNET Board

Sets policy and appoints Standards Management Board (SMR) members



Standards Management Board

- Maintains Policies and Procedures Manuals
- Assigns amendments to SDC
- Reviews amendment actions to ensure compliance with procedures
- Appoints members and terms for SDC



Standards Development Committees (SDC)

- Consensus Body
- Membership must be balanced—producers, users, general
- Oversees public review and comments
- Recommends adoption of amendments
- Appoints subcommittees made up of subject matter experts



SDC Subcommittees

- Drafts Amendments
- Reviews public comments
- Need not be balanced



To learn more about RESNET's standards, visit www.resnet.us/professional



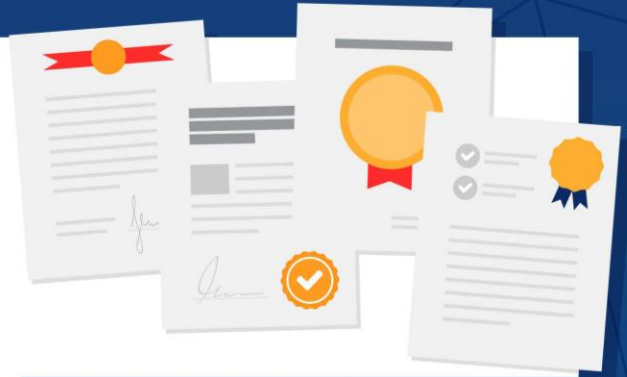
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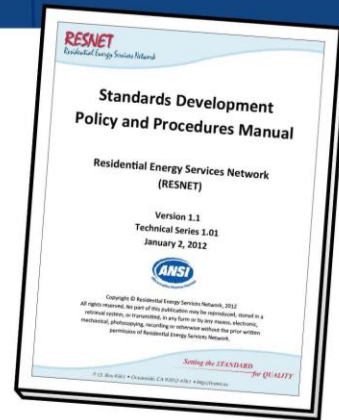
RESNET Board

Sets policy and appoints Standards Management Board (SMB) members



Standards Management Board

- ✔ Maintains Policies and Procedures Manuals
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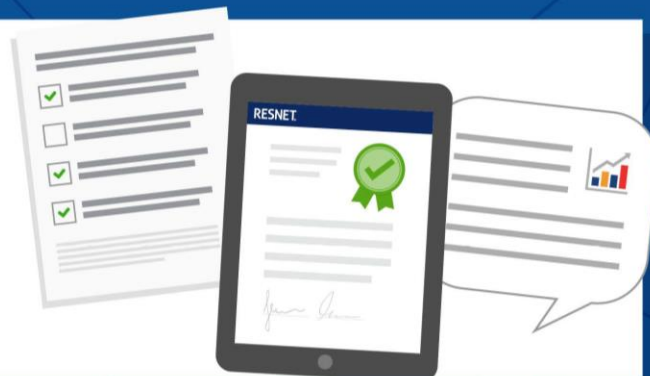
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SDC Subcommittees

- ✔ Drafts Amendments
- ✔ Reviews public comments
- ✔ Need not be balanced



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RESNET is the independent, national nonprofit organization that homeowners trust to improve home energy efficiency and realize substantial savings on their utility bills. RESNET's industry-leading standards are recognized by the U.S. Department of Energy and the U.S. Environmental Protection Agency, among others.

To learn more about RESNET and the HERS Index, visit www.resnet.us

The Focus of Each SDC

■ SDC 200

- ▶ Training and Certification (MINHERS Chapter 2)

■ SDC 300

- ▶ Technical Standards (ANSI/RESNET 301, 380, 1201
BSR/RESNET 310, MINHERS Chapter 3)

■ SDC 900

- ▶ Quality Assurance and Sampling
(MINHERS Chapter 9, BSR/RESNET 600)

■ SDC 1100

- ▶ Water Rating Standards (BSR/RESNET/ICC 1101)

SDC Standing Subcommittees

■ SDC 200

■ SDC 300

▷ Calculations, Enclosures, Equipment

■ SDC 900

▷ Sampling

■ SDC 1100

▷ Water Rating Standards Technical

**What's a standard?
What's a code?**

What's the difference?

Standards prescribe:

- ▶ Measurements of quality and quantity
- ▶ Test methods and sampling procedures
- ▶ Descriptions of fit and measurement

According to the National Institute of Standards and Technology (NIST)

A code is:

- ▶ A standard that has been enacted into law

A model code is:

- ▶ A standard developed with the intent of becoming a code

Appendix? Annex? Addendum?

- An Appendix has supplementary requirements and is included with the standard.
- An Annex has optional procedures and is included with the standard.
- An Addendum has mandatory requirements and is added after publication of the standard.

Non-ANSI and ANSI Standards

Non-ANSI Standards Overview

- Proprietary standards without external requirements for development
- Mortgage Industry National Home Energy Rating System
aka MINHERS aka “The RESNET Standards”
 - ▷ May reference ANSI standards
 - ▷ Are under “continuous maintenance”
- Another example: USGBC’s LEED certification programs

ANSI Standards Overview



- American National Standards Institute (ANSI)
- Voluntary, consensus-based standards organization

- Must follow ANSI procedures for development
- Only one ANSI standard permitted per topic
- Will be revised, reaffirmed, or withdrawn every 3 years

- 301-2014 / 301-2019 and 380-2016 / 380-2019 and 1201-2016

- Another example: NGBS (ICC/ASHRAE 700-2015)

The RESNET Standards

- Include all requirements for HERS Raters and Ratings:
 - ▷ Instruction, Assessment, and Certification
 - ▷ Inspection Procedures for Minimum Rated Features (ref. 380)
 - ▷ Technical Standards (points to 301)
 - ▷ Sampling
 - ▷ Quality Assurance Providers and Quality Assurance
 - ▷ Home Energy Audits
 - ▷ Combustion Safety Testing and Workscope Development
 - ▷ Energy Smart Projects and Energy Smart Contractors
 - ▷ Revision of Standards

RESNET's First ANSI Standards

ANSI/RESNET/ICC **301**-2014

- ▶ Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index

ANSI/RESNET/ICC **380**-2016

- ▶ Standard for Testing Airtightness of Building Enclosures, Airtightness of Heating and Cooling Air Distribution Systems, and Airflow of Mechanical Ventilation Systems

RESNET's 2019 ANSI Standards

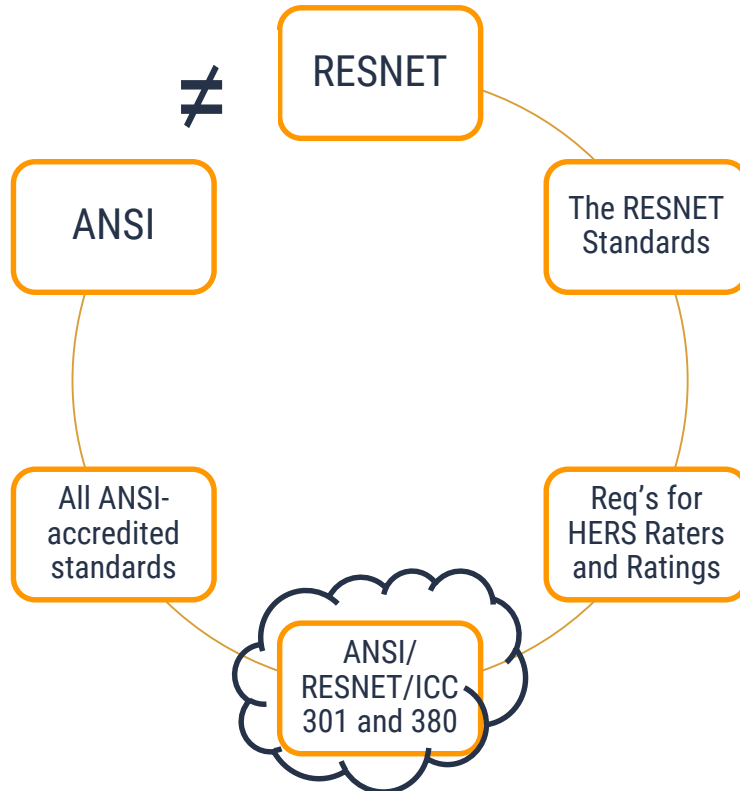
ANSI/RESNET/ICC **301**-2019

- ▶ Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index

ANSI/RESNET/ICC **380**-2019

- ▶ Standard for Testing Airtightness of Building, Dwelling Unit, and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation Systems

?



**What's currently
required?**

ANSI Standards

Title (All ANSI/RESNET/ICC)		Pub. Date	Effective
301-2014	Standard for the Calculation and Labeling of the Energy Performance of Low-rise Residential Buildings using an Energy Rating Index	12/20/13	1/15/16
Addendum A	Domestic Hot Water Systems	1/15/16	1/15/16
Addendum B	Innovative Design Requests	1/15/16	1/15/16
Addendum K	Roof Solar Absorptance Test Standard	11/10/17	11/10/17
Addendum D	Standard ANSI/RESNET/ICC 380-2016 and Addenda	1/1/18	1/1/18
Addendum E	House Size Index Adjustment Factors	2/1/18	2/1/18

<http://www.resnet.us/blog/resnet-consensus-standards/>

ANSI Standards

Title (All ANSI/RESNET/ICC)		Pub. Date ▼	Effective
Addendum G	Solid State Lighting	2/28/18	2/28/18
Addendum T	Thermal Distribution System Efficiency	11/29/18	12/29/18
Addendum L	Exception to Duct Leakage to Outside Testing* (Supersedes part of Addendum D)	12/3/18	1/2/19
Addendum N	Appendix B: Inspection Procedures for Minimum Rated Features*	12/6/18	1/5/19
Addendum R	Threshold Ratings**	12/31/18	1/30/19
Addendum F	Appendix A: Inspection Procedures for Insulation Grading and Assessment*	1/11/19	2/9/19

* Transition Period End Date: 7/1/19

** No Transition Period

ANSI Standards

Title (All ANSI/RESNET/ICC)		Pub. Date ▼	Effective
301-2019	Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index	12/18/18	7/1/19 (Target)
Addendum A	In progress...		
1201-2016	Standard Method of Test for the Evaluation of Building Energy Analysis Model Calibration Methods	10/14/16	10/14/16

ANSI Standards

Title (All ANSI/RESNET/ICC)		Pub. Date ▼	Effective
380-2016	Standard for Testing Airtightness of Building Enclosures, Airtightness of Heating and Cooling Air Distribution Systems, and Airflow of Mechanical Ventilation Systems***	2/4/16	1/1/18
Addendum A	Attics and Crawlspace	9/12/17	9/12/17
380-2019	Standard for Testing Airtightness of Building, Dwelling Unit and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation	11/21/18	7/1/19 (Target)

*** "Transition Period End Date": 7/1/18

Non-ANSI Standards

Title	Pub. Date ▼	Effective
MINHERS	2013	2013
All “enhancements”/addenda adopted in 2018 and earlier	2013-2019	2013-2019
MINHERS, Continuous Maintenance Version <i>Now includes all addenda required through 1/1/19</i>	Ongoing	Now

<http://www.resnet.us/blog/mortgage-industry-national-home-energy-rating-standards/>

<https://standards.resnet.us/>

Non-ANSI Standards

Title		Pub. Date	Effective
Addendum 31	Rescind Simulation Practical Test Requirement for Certified Raters	11/16/17	11/16/17
Addendum 27	Ch 3 HERS Scope, Definitions and 4 Sty Dwellings	1/15/18	2/14/18
Addendum 33	Ch 9 QAD Certification	8/9/18	9/8/18
Addendum 35	Ch 1 Software Accreditation	10/12/18	11/11/18
Addendum 29	Ch 9 Quality Assurance Designee	11/15/18	1/1/19
Addendum 32	Ch 3 MINHERS Standards Revisions and Amendments	11/29/18	1/1/19
Addendum 39	Ch 3 Non-Measured Ventilation Airflow and Ventilation Fan Wattage Defaults*	11/29/18	1/1/19
Addendum 40	Ch 9 Ethics Appeal Panel	12/20/18	1/20/19

What's Addendum 32?

- ▷ Pub. Date: 11/29/18
- ▷ Effective Date: 1/1/19

UPDATE to Revision of Standards

- **Objective:** Standardize release of new standards and amendments
- **Default Effective Date:** January 1 or July 1 after Publication Date
 - ▷ *May* be earlier
 - ▷ Minimum 60 days after Pub. Date if software must change
 - ▷ (For ANSI Standards, it is always the Publication Date.)
- **Transition Period:** 0 days – 6 months, typically
 - ▷ Determined by SMB based on size of change
- **NOTE:** Numbered addenda are for non-ANSI standards.

Critical Defined Terms



■ Publication Date

- ▶ Official date of final version of amendment
- ▶ For ANSI standards, the date of ANSI approval

■ Effective Date

- ▶ Date on which amendment *may* be used
- ▶ Date on which any software updates shall be completed

■ Transition Period

- ▶ Time period when amendment *may* be used

■ Transition Period End Date

- ▶ Amendment **MUST** be used for homes with a Building Permit Date after this date

What's coming soon?

ANSI Standards

Title (All BSR/RESNET)

310-201x	Standard for Grading the Installation of HVAC Systems
600-201x	Standard for the Sampling of Inspections, Testing, and Energy Ratings
1101-201x	Standard for the Calculation and Labeling of the Water Efficiency of Low-Rise Residential Buildings Using the WER Index
301-202(2)	Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index
380-202(2)	Standard for Testing Airtightness of Building, Dwelling Unit and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation

Non-ANSI Standards

Title	
Addendum 30	Quality Assurance° 
Addendum 34	QAD Data File
Addendum 36	Rater and RFI Recertification; Remove HESP° 
Addendum 37	QAD Disciplinary Actions
Addendum 42	Adoption of Standards ANSI/RESNET/ICC 301-2019 and ANSI/RESNET/ICC 380-2019° 

STANDARD AMENDMENTS OUT FOR PUBLIC COMMENT

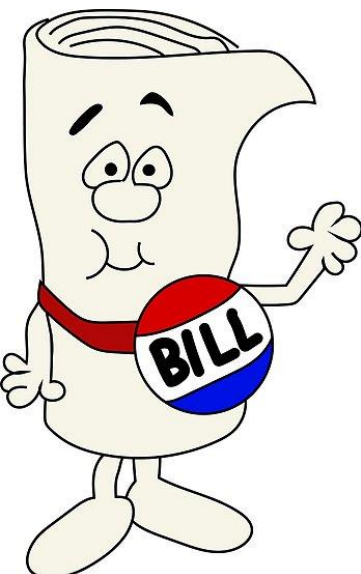
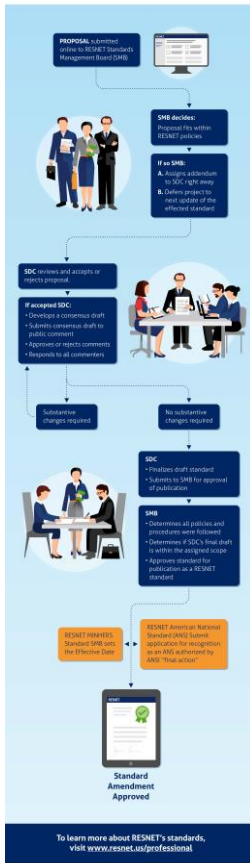
° Currently open for public comment

**What's the standards
development process?**

HOW A STANDARD AMENDMENT GETS APPROVED



Similar to our nation's laws, any proposal for a change to any RESNET standard must go through a detailed consensus based process before being adopted.





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PROPOSAL submitted
online to RESNET Standards
Management Board (SMB)



SMB decides:

Proposal fits within
RESNET policies

If so SMB:

- A.** Assigns addendum to SDC right away
- B.** Defers project to next update of the effected standard

SDC reviews and accepts or rejects proposal.

If accepted SDC:

- Develops a consensus draft
- Submits consensus draft to public comment
- Approves or rejects comments
- Responds to all commenters



Substantive changes required

No substantive changes required



SDC

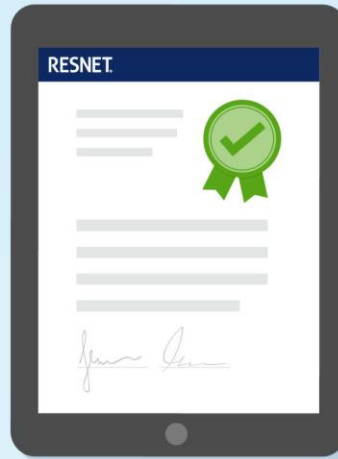
- Finalizes draft standard
- Submits to SMB for approval of publication

SMB

- Determines all policies and procedures were followed
- Determines if SDC's final draft is within the assigned scope
- Approves standard for publication as a RESNET standard

RESNET MINHERS
Standard SMB sets
the Effective Date

RESNET American National
Standard (ANS) Submit
application for recognition
as an ANS authorized by
ANSI "final action"



**Standard
Amendment
Approved**

To learn more about RESNET's standards,
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RESNET is the independent, national nonprofit organization that homeowners trust to improve home energy efficiency and realize substantial savings on their utility bills. RESNET's industry-leading standards are recognized by the U.S. Department of Energy and the U.S. Environmental Protection Agency, among others.

To learn more about RESNET and the HERS Index, visit www.resnet.us

Standards Development Policy and Procedures Manuals

- Manuals describe standards development requirements.
- ANSI and Non-ANSI procedures are very similar.
 - ▷ Time-critical MINHERS changes may become “interim addenda.”
 - ▷ Decisions on ANSI standards may be appealed.
 - ▷ ANSI reviews process documentation for all ANSI standards.

Review of Step-by-Step Process

1. Within an SDC, Subcommittees or Task Groups work on content.
2. The SDC votes on Working Draft content (2/3 approval required).
3. After SDC consensus, Preliminary Draft Standards (PDS) are released for public comment.
4. The SDC is responsible for resolving public comments.
 - Subcommittees or Task Groups draft initial responses.
 - SDC votes on final responses and actions.
5. If any substantive changes are made, the process starts again with #2 and *only* the changes are released for public comment.
6. If unchanged, SDC's Final Draft Standard submitted to SMB.
7. SMB reviews title, scope, development procedures. If all good, SMB approves for RESNET publication.

**How often do
standards change?**

- Standards change as often as they need to.

- Standards Amendments may be proposed at any time.
 - ▷ MINHERS is under “continuous maintenance.”
 - ▷ ANSI/RESNET standards will formally incorporate Addenda in an Update edition every 3 years.

- Addendum 32 sets a predictable schedule for implementing Amendments.

**When is
“public comment”?**

- Standards and addenda are released for public comment shortly after the first draft is approved by an SDC (2/3 vote).
- It may take 2 people 2 weeks to draft an addendum.
- It may take 20 people 5 years to draft a standard.
- There is usually more than one round of public comment.
- First public comment period = 45 days, typ.
- Next public comment periods = 30 days, typ.

RESNET Standards Update: Draft PDS-01 of Addendum 42
and Draft PDS-02 of Addendum 30 ➤



RESNET noreply@resnet.us via e2ma.net
to me ▾



RESNET.
RESIDENTIAL ENERGY SERVICES NETWORK

Setting the standards for quality since 1995

RESNET

RESNET STANDARDS UPDATE

RESNET® Standards Update

RESNET Proposes Two Standard Addenda:

**Draft PDS-01 of proposed Addendum 42: Adoption of
ANSI/RESNET/ICC 301-2019 and ANSI/RESNET/ICC
380-2019**

&

**Draft PDS-02 of proposed Addendum 30: Quality
Assurance**

Comment Period February 21, 2019 – March 22, 2019

Draft PDS-01 of proposed Addendum 42: Adoption of ANSI/RESNET/ICC 301-2019 and ANSI/RESNET/ICC 380-2019

ANSI has approved the 2019 editions of Standards ANSI/RESNET/ICC 301 and ANSI/RESNET/ICC 380. Addendum 42 revises the MINHERS to reference these new editions of the Standards and to make essential conforming amendments.

The changes made by Addendum 42 include:

1. Changing the references to Standards 301 and 380 in Chapter 3 to the 2019 editions;
2. Removing Chapter 3 exceptions to the scope and certain requirements of Standard 301 that are now contained in ANSI/RESNET/ICC 301-2019;
3. Revising references to Standards 301 and 380 throughout the chapters;
4. Adding Threshold Rating consistent with ANSI/RESNET/ICC 301-2019;
5. Removing Appendix A which was updated and relocated to Standard 301-2019 Appendix B;
6. Revising references throughout the chapters from Appendix A to Standard 301-2019 Appendix B;
7. Removing definitions of terms no longer appearing in the MINHERS from Appendix B and adding references to Standard 301-2019 for the definition of certain technical terms



Public comments will be accepted through March 22, 2019.

The draft addendum, comment form, and comments posted to date are posted at [Draft PDS-01 MINHERS Addendum 42](#)

After the comment period, the RESNET Standard Development Committee 300 will consider and document each of the comments submitted and make appropriate changes. Substantive changes will be submitted for public comment.

Draft PDS-01 of proposed Addendum 30: Quality Assurance

RESNET has embarked on a comprehensive effort to enhance the consistency of HERS Index Scores nationally. This effort includes the upgrading of its quality assurance standards to align with the RESNET Board Policies on Enhancing Quality Assurance Oversight. The portion of the initial draft provided for public comment on financial separation was considered through the amendment proceeding on proposed Addendum 29. The financial separation policy that addendum addressed was changed by the Board of Directors and Addendum 29 was revised. The remaining components of the Board's policies are addressed in Addendum 30. Public input on the initial omnibus draft resulted in substantive changes that were incorporated into the first draft of Addendum 30, Draft PDS-01. Those changes were submitted for public comment and further changes have been made. The changes to draft PDS-01 are shown in strikethrough/underline in draft PDS-02 and are submitted here for comment.

Public comments will be accepted through March 22, 2019.

The draft addendum, comment form, and comments posted to date are posted at [Draft PDS-01 MINHERS Addendum 30](#)

After the comment period, the RESNET Standard Development Committee 900 will consider and document each of the comments submitted and make appropriate changes. Substantive changes will be submitted for public comment.

[View RESNET Pending Standard Amendment Page](#)

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**What is “open”
for comment?**

Shown in ~~strikeout~~/underline format

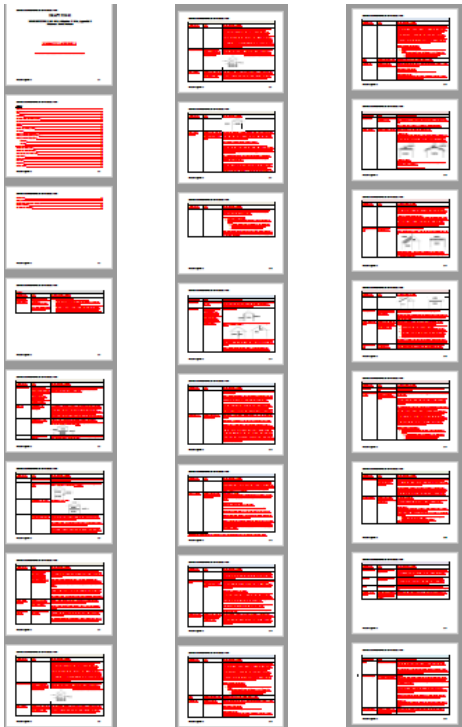
■ First public comment period:

- ▶ Only the words proposed for addition or deletion are available for comment.

■ Subsequent public comment periods:

- ▶ Only the *new* words proposed for addition or deletion are available for comment.

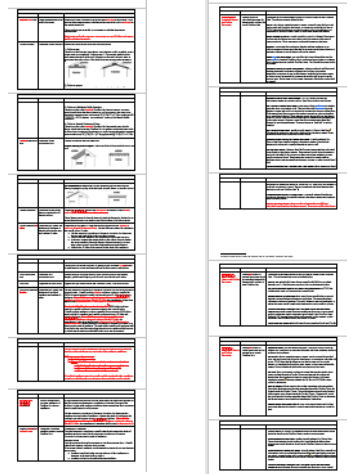
What's open for comment?



PDS-01 of a new standard
(everything)



PDS-02 of the same standard
(changes only)



What happens to public comments?

Review of comments

- All public comments are considered by an SDC.
 - ▶ Task Groups may be organized to evaluate comments and draft responses.
 - ▶ All comment actions and responses are subject to SDC vote.

- Any comments that result in substantive changes trigger an updated draft and another round of public comments.

An SDC's Response

■ Accept

- ▶ Comment was appropriate and based on good technical reasoning
 - ▶ Standard/addendum updated to reflect comment

■ Accept in Principle

- ▶ Comment was appropriate and based on good technical reasoning
 - ▶ Standard/addendum updated to reflect intent of comment

■ Reject

- ▶ Comment was not appropriate and/or lacked technical basis
- ▶ Comment did not request a specific change to the text

■ Reason

How to submit comments

Steps for Submitting Public Comments

- Read the summary
- Download and read the draft standard or amendment
 - ▷ Do you understand how to implement it?
 - ▷ Do you agree or disagree with its premise?
 - ▷ Does it need clarification?
 - ▷ Which parts are in ~~strikeout~~/underline format?
- Read submitted comments
- Draft your response in Word *but* formatting does not copy

Summary

DRAFT PDS-01 OF PROPOSED ADDENDUM 42, ADOPTION OF STANDARDS ANSI/RESNET/ICC 301-2019 AND ANSI/RESNET/ICC 380-2019

Proposed Addendum 42 amends the MINHERS Chapter 3 to adopt the 2019 editions of Standards ANSI/RESNET/ICC 301 and ANSI/RESNET/ICC 380. It makes necessary conforming amendments to the remaining MINHERS chapters: to align references; to remove Appendix A that was moved into Standard 301 and updated for multi-family dwelling units; to remove exceptions to the scope of Standard 301 that are no longer needed due the expansion of Standard 301's scope in the 2019 edition, and; to substantially revise Appendix B Glossary of Terms to reflect only those used within the MINHERS and to reference Standard 301 definitions where duplicated.

Draft Standard

[Draft PDS-02, MINHERS Addendum 30, Quality Assurance](#)

Online Comment Form

To submit your comments click on [RESNET Amendment Comment Online Form for Draft PDS-01 MINHERS Addendum 42](#)

Comments are posted real time and you will be able to review comments that were submitted by clicking on [Comments Submitted on Draft PDS-01 MINHERS Addendum 42](#)

Submitted Comments

Comments will be accepted only on the changes as indicated by the strike/underlined red text in draft PDS-01.

The public comment period will be open for 30 days beginning February 21, 2019 through March 22, 2019.

After the comment period, the RESNET Standard Development Committee 300 will consider and document each of the comments submitted and make appropriate changes. Any substantive changes to draft PDS-01 will be provided to the public for comment. When there are no more substantive changes the proposed final amendment will be submitted to the RESNET Standard Management Board for final approval

Online Comment Form

Submit your comment below:

Commenter

First Name: *

Last Name: *

Affiliation: *

(who you represent)

Yourself, Your Company, An Organization – Name it

Location

Country: *

United States of America ▼

Address: *

City: *

What part of the country are you in?

State/Province: *

Select a State ▼

Zip Code: *

Contact Information






Phone Number: *

Email Address: *

How could somebody get in touch? Where should we reply?

Comment

Online Comment Form

Comment	
Page Number: *	<input type="text" value="Which page should the reviewers have open?"/>
Section/Table/Figure Number:	<input type="text" value="Which part of the page should the reviewers look at?"/>
Comment Intent: *	<input type="text" value="Select a Comment Intent"/>
Comment Type: *	<input type="text" value="Select a Comment Type"/>
Comment: *	<div><p>Include your justification for proposed change to document standard</p><p>Normal A A B <i>I</i> abc 1 2 3    </p></div>

Select a Comment Intent

Select a Comment Intent

Objection

Not an Objection

Select a Comment Type

Select a Comment Type

General

Technical

Editorial

Comment Intent

■ Objection

- ▷ Disagreement with all or part of the draft standard
- ▷ *ANSI requires that all Objections be addressed and resolved.*

■ Not an Objection

- ▷ Not a disagreement
- ▷ Suggestion for clarification
- ▷ Observation of a possible error

Comment Type

■ General

- ▷ Observation or comment on the overall concept

■ Technical

- ▷ Change a proposed requirement

■ Editorial

- ▷ Change to wording without changing intent

The Comment Itself

Comment: *

Include your justification for proposed change to draft standard



■ WHY do you have something to say?

- ▶ Do you understand how to implement it?
- ▶ Do you agree or disagree with its premise?
- ▶ Does it need clarification?

The Proposed Change Itself

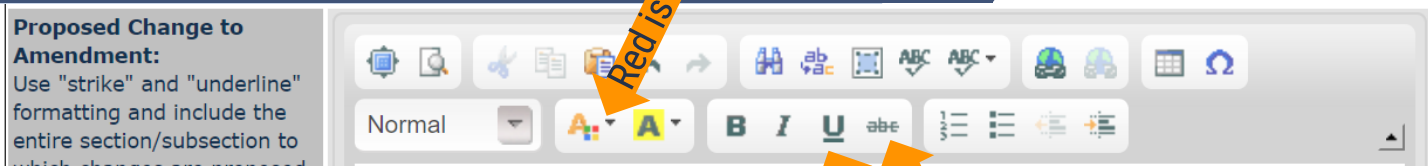
Proposed Change to Amendment:

Use "strike" and "underline" formatting and include the entire section/subsection to which changes are proposed



- WHAT do you have to say?
 - ▷ *Exactly* what do you propose?
- In order to be considered:
 - ▷ Your change **MUST** be on text that is in ~~strikeout~~/underline format.
 - ▷ You **MUST** use ~~strikeout~~/underline format.
 - ▷ You **MUST** propose a change to the text.

Strikeout/Underline Format



■ Strikeout

- ▶ Text to be removed

■ Underline

- ▶ NEW, proposed text

■ You must propose a specific change to a specific part of the text.

How to craft great comments

For Clarification

Draft PDS-01 BSR/RESNET/ICC 301-2014 Addendum N-201x

Building Element: Light Fixtures		
Rated Feature	Task	On-Site Inspection Protocol
<u>Number of Qualifying and non-qualifying Light Fixtures</u>	<u>Calculate percentage of Qualifying Light Fixtures by dividing the part by the whole</u>	<u>Record whether the Qualifying Light Fixtures are or are not installed at the time of the inspection.</u> <u>If the Qualifying Light Fixtures are installed at the time inspection, then determine if they are Tier I or Tier II.</u> <u>Record the ratio of Qualifying Tier I Light Fixtures to all light fixtures in Qualifying Light Fixture Locations and the ratio of Qualifying Tier II Light Fixtures to all light fixtures in Qualifying Light Fixture Locations. This ratio is calculated by fixture and not by light bulb.</u>

Normative Appendix B

B-47

Clause No/Subclause No/Annex: B-47

Paragraph/Figure/Table/Note: Building Element: Light Fixtures

Intent of Comment: Not an Objection


Type of Comment: Editorial

Comment

Since lighting is separately evaluated for Interior, Exterior, and Garage locations, the On-Site Protocol should make that clear.

Proposed Change

Building Element: Light Fixtures		
Rated Feature	Task	On-Site Inspection Protocol
Number of Qualifying and non-qualifying Light Fixtures	Calculate percentage of Qualifying Light Fixtures by dividing the part by the whole	<p>For each of the 3 categories of lighting locations (i.e. Interior, Exterior, and Garage), Record whether the Qualifying Light Fixtures are or are not installed at the time of the inspection.</p>
		<p>If the Qualifying Light Fixtures are installed at the time inspection, then determine if they are Tier I or Tier II.</p> <p>For each of the 3 categories of lighting locations (i.e. Interior, Exterior, and Garage), Record the ratio of Qualifying Tier I Light Fixtures to all light fixtures in Qualifying Light Fixture Locations and the ratio of Qualifying Tier II Light Fixtures to all light fixtures in Qualifying Light Fixture Locations. This ratio is calculated by fixture and not by light bulb.</p>



Accept: X

Reject: _____

Reason: Thank you for your comment on the proposed draft Addendum N. Your proposed change to the draft Standard is accepted and this section has been updated accordingly with your proposed language.

To Disagree

Exception: Thicknesses less than 1.5 inches considered air-impermeable with appropriate ASTM E2178 data (air permeance less than 0.04 cfm/ft²) from manufacturer data sheet or ICC-ES Report.

A-2.0 Insulation Grading

A-2.1 Grading Criteria for Batt, Loose-fill, Open and Closed Cell Polyurethane Spray Foam Insulation and Insulated Sheathing

A-2.1.1 Grade I (Minor Defects)

Shall meet ASTM-specified installation requirements in standards C1015, C1320, and ASTM WK41440 and shall also meet the following cavity fill requirements:

A-2.1.1.1 Batt or Loose-fill Insulation

When installing batt, or loose-fill insulation, no more than 2% of the total insulated area (cavity) shall be compressed below the thickness required to attain the labeled R-value or contain gaps or voids in the insulation. These areas shall not be missing or compressed more than ½ inch of the specified insulation thickness in any given location. Voids extending from the interior to exterior of the intended insulation areas shall not be permitted.

than ¼ inch below the specified thickness. The minimum installed thickness shall not be less than 1 inch below the specified thickness at any point. Voids extending from the interior to the exterior of the intended insulation areas shall not be permitted.

A-2.1.1.3 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 ¼ inch less than the specified thickness. The minimum installed thickness shall not be less than ¼ inch below the specified thickness at any point. Voids extending from the interior to exterior of the intended insulation areas shall not be permitted.

A-2.1.1.4 Insulated Sheathing

Insulated sheathing insulation installations meeting the minimum installation, application, and material requirements above. Voids through interior to exterior of the intended insulation areas shall not be permitted.

A-2.1.2 Grade II (Moderate Defects)

Shall meet ASTM-specified installation requirements in ASTM standards C1015, C1320, and ASTM WK41440 and shall also meet the following cavity fill requirements:

Clause No/Subclause No/Annex: 5

Paragraph/Figure/Table/Note: Section A-2.1.1.1 Batt or Loose-fill Insulation.

Intent of Comment: Objection

Type of Comment: Technical

Comment

Comment 10

Section A-2.1.1.1 Batt or Loose-fill Insulation. Strongly recommend revising the section to read:

When installing batt, or loose-fill insulation, no more than 2% of the total insulated area (cavity) shall be compressed below the thickness required to attain the labeled R-value or contain gaps or voids in the insulation. These areas shall not be missing or compressed more than ~~½ inch~~ ¾ inch of the specified insulation thickness in any given location. Voids extending from the interior to exterior of the intended insulation areas shall not be permitted.

Reason: Requiring a more stringent standard of compression (1/2" vs. ¾" maximum) for batt or loose-fill compared to SPF insulation is not technically justified. Especially considering the fact having ¾" less of CCSPF would decrease the overall R-value of the system more, because CCSPF has a greater R-value per inch. In other words, ¾" of CCSPF has more R-value than 1/2" of batt or loose-fill insulation. All materials should be treated equally under the standard.

Proposed Change

Technical Approach Recommendations

Accept: X

Reject:

Reason:

Accept as proposed by the comment.

Ineffective comments

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exterior of the Rated Home or pole. This excludes plug-in lamps, closets, unconditioned basements, lighting for common spaces, parking lot lighting, and landscape lighting.

Supply Ventilation System (Supply System) – One or more fans that supply outdoor air to the Dwelling Unit. Supply Ventilation Systems shall be designed and constructed to provide ventilation air directly from the outdoors to the Dwelling Unit.

Townhouse – A single-family Dwelling Unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides.

Unconditioned Space Volume¹⁴ – The volume within a building or Dwelling Unit that is not Conditioned Space Volume, but which contains heat sources or sinks that influence the temperature of the area or room. The following specific spaces are addressed to ensure consistent application of this definition:

- If either one or both of the volumes above and below a floor assembly is Unconditioned Space Volume, then the volume of the floor assembly shall be included.
- If the volume of both of the spaces horizontally adjacent to a wall assembly are Unconditioned Space Volume, then the volume of the wall assembly shall be included.
- The volume of an attic that is not both air sealed and insulated at the roof deck shall be included.
- The volume of a vented crawlspace shall be included.
- The volume of a garage shall be included, even when it is conditioned.
- The volume of a thermally isolated sunroom shall be included.
- The volume of an attic that is both air sealed and insulated at the roof deck, the volume of an unvented crawlspace, and the volume of a basement shall be included unless it meets the definition of Conditioned Space Volume.

Uniform Energy Factor (UEF) – DOE's new standard for communicating the energy efficiency of water heaters, effectively replacing the Energy Factor.

Unrated Conditioned Space – A building location used only in Ratings of attached units, beyond the boundaries of the rated Dwelling Unit and serviced by a space heating or cooling system designed to maintain space conditions at 78 °F (26 °C) ± 5°F for cooling and 68 °F (20 °C) ± 5°F for heating. The energy for conditioning Unrated Conditioned Space is not counted in the Rated Home or Energy Rating Reference Home. This is distinct from Unrated Heated Space, and from Conditioned Space Volume.

¹⁴ (Informative Note) Informative Annex A of ANSI/RESNET/ICC Standard 380 contains a table that summarizes parts of a Dwelling Unit that are included in Unconditioned Space Volume.

ANSI/RESNET/ICC 301-2014

A-6

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Building Element: Floor/Foundation Assembly		
Rated Feature	Task	On-Site Inspection Protocol
	Identify floor of Attached Dwelling Unit over Multifamily Buffer Boundary, Unrated Conditioned Space, Unrated Heated Space, or Non-Freezing Space	<p>Floor above Multifamily Buffer Boundary – The space directly below the Dwelling Unit has no heating or cooling system or the space is not designed to maintain space conditions at 78 °F (26 °C) ± 5°F for cooling and 68 °F (20 °C) ± 5°F for heating.</p> <p>Floor above Unrated Conditioned Space – The space directly below the Dwelling Unit is serviced by a heating or cooling system designed to maintain space conditions at 78 °F (26 °C) ± 5°F for cooling and 68 °F (20 °C) ± 5°F for heating.</p> <p>Floor above Unrated Heated Space – The space directly below the Dwelling Unit is outside of the Conditioned Space Volume, and only interacts with the Rated Home via the shared services located within. This space is not cooled.</p> <p>Non-Freezing Space – the temperature of the space directly below the Dwelling Unit varies with outside temperature but is heated as necessary to stay at or above is maintained at a temperature no lower than 40°F.</p>
<u>Framing members</u>	<u>Determine the size of the framing members for all framed floors</u>	<p><u>Determine the framing member size and spacing for framed floors at each floor exposure.</u></p> <p><u>When framing cannot be directly observed, check the framing by looking for an access through another part of the building or by looking at the rim space from the outside.</u></p>
Interior surface condition	Determine if the inside surface condition of floor is exposed or covered	<p>Covered - Floors covered with wall-to-wall carpet are considered covered. Floors with only area rugs are not considered covered.</p> <p>Exposed - Floors covered with tile, malleum, vinyl, or wood are considered exposed.</p>

ANSI/RESNET/ICC 301-2014

A-25

Clause No/Subclause No/Annex: A-6 A25 and others

Intent of Comment: Objection

Type of Comment: Technical



Comment

Why is RESNET continuing to use 68 degrees for heating and 78 degrees for cooling when ACCA and the IECC reference design temperatures of 70 degrees for heating and 75 degrees for cooling? When doing code work I need to reference the IECC for temperature calculations in the software. Having the same numbers needs worked out.

Proposed Change

Use 75 degrees for cooling and 70 degrees for heating.


Response

Action: Accept Reject Accept in Principle

Reason:

The scope of Addendum N is to cover on-site inspection protocols. While we understand this perspective and are not in disagreement, the design temperatures are determined by Standard 301, which was not open for public comment. Pages A-2 through A-17 of this document were informative excerpts from Standard 301. The On-Site Inspection Protocol for Floors references the design temperatures set by 301 and is intended to align with those parameters. You are encouraged to submit a Continuous Maintenance Proposal (CMP) to RESNET so that this change can be considered.

How to comment on closed language

- 
- Submit a proposal to revise an existing standard.
 - If you submit a comment on language that is not “open” for comment, it must be procedurally rejected.

How to submit a proposal

Submitting Proposed Amendments and New Candidate ANSI Standards

- http://www.resnet.us/professional/standards/proposed_amendments
- Must be in editorial ~~strikeout~~/underline format.
- Must provide justification and rationale.
- Called New Work Items (NWI) when SMB assigns to SDC

SUBMIT A PROPOSED NEW STANDARD OR SUBMIT A PROPOSED REVISION TO AN EXISTING

Name *

Affiliation *

Address *

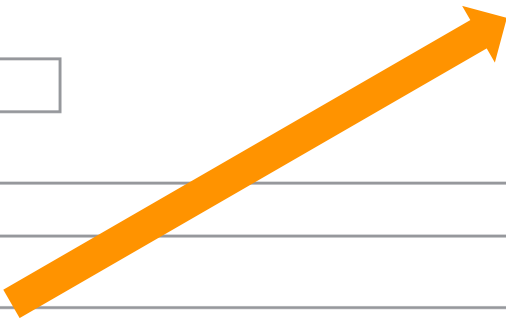
Phone *

Email *

Proposed *

Proposed *

- Choose one ...
- Choose one ...
- Create a new Standard
- Revise an existing Standard



Attached Documents

Choose File No file chosen

SUBMIT

RESNET Online Standard Amendment Form

- Link posted at beginning of RESNET Standards
 - ▶ <https://standards.resnet.us>
- http://www.resnet.us/professional/standards/submitting_amendments
- Must be in editorial ~~strikeout~~/underline format.
- Must provide justification and rationale.

RESNET PROPOSED STANDARD AMENDMENT FORM

All fields are required.

Title of Proposed Amendment:

Name of Person Proposing
Amendment:

Name of Organization:

E-mail Address:

Phone Number:

Proposed Amendment:

No file chosen

(Document must be submitted in editorial underline/strike out format with specific sections listed)

Background/Rationale for
Proposed Amendment:

No file chosen

(Please zip all supporting material in electronic form and attach it here)

SUBMIT

Proposed Amendment EXAMPLE

Justification

Sections to change

Proposed change,
in ~~strikeout/~~
underline format

SMB Approved for Publication, MINHERS Addendum 27



Setting the Standards for
Home Energy Efficiency

Proposed Standard Revision

Date Approved:	January 15, 2018	Amendment #2018-01
Date Effective:	February 14, 2018	
Proponent:	Standard Development Committee 300	
Organization:	RESNET	

Justification:

RESNET has received multiple Innovative Design Requests requesting authorization to produce a HERS rating for a four-story dwelling. Examples of such dwellings include three-story dwellings with a fourth-story loft over a certain relative size, three-story dwellings with a fourth-story bonus room in the attic space, and dwellings with a first-story walk-out basement and three stories above.

Four-story dwellings, such as these, cannot currently obtain HERS ratings that qualify for entry into the National RESNET Registry. With no other means of qualifying for HERS ratings, raters have resorted to Innovative Design Requests to obtain authorization on a case-by-case basis.

This issue will be resolved in the long-term through RESNET's development of a standard for multi-family dwellings and dwelling units which, together with Standard ANSI/RESNET/ICC 301-2014, will provide a suite of standards for Energy Ratings that cover all dwellings and dwelling units regardless of the building size they are located in.

However, until that standard is completed and implemented by RESNET there is a need for an interim solution better than the case-by-case authorization provided via the IDR, which was not intended for authorizing ratings for designs that are arguably standard, not innovative. This addendum provides that interim solution for this small subset of four-story dwellings by allowing such structures to receive a HERS rating that can be entered in the National RESNET Registry.

In addition, RESNET has obtained recognition of its Standard ANSI/RESNET/ICC 301-2014 by the International Energy Conservation Code as an alternative compliance option. Currently RESNET is the sole entity implementing Standard 301 and needs to align the Scope of its HERS with Standard 301 and the IECC to ensure coordination and acceptance of the HERS by code adopting and enforcing jurisdictions. This proposed amendment modifies the RESNET MINHERS Chapter 3 Scope for consistency with Standard 301 and incorporates definitions essential to coordination of the HERS with the IECC from the IECC and IRC into the MINHERS Appendix B, Glossary of Terms.

SMB Approved for Publication, MINHERS Addendum 27

Modifications to the chapter are given below in underline/strikeout format

Chapter Three RESNET Standards

300 NATIONAL HOME ENERGY RATING TECHNICAL STANDARDS

301 GENERAL PROVISIONS

301.1 Purpose

The provisions of this Standard are intended to establish residential energy rating standards, consistent with the provisions of the Energy Policy Act 1992 that any provider of home energy ratings may follow to produce uniform energy ratings for ~~Residential Buildings; residential buildings.~~

301.2 Scope

These Standards apply to existing or proposed, site-constructed or manufactured ~~one- and two-family Dwellings and to Dwelling Units in Residential Buildings not over three Stories Above Grade Plane in height containing multiple Dwelling Units, single- and multi-family residential buildings three stories or less in height excepting hotels and motels.~~

Exception 1: These Standards also apply to Dwelling Units; dwelling units in multi-family buildings four and five stories above grade that are certified through EPA's ENERGY STAR certified homes program.

Exception 2: These Standards also apply to Townhouses and single-family Dwellings four Stories Above Grade Plane in height.

301.3 Relationship to Other Standards. This Chapter is a companion Chapter to the "National Accreditation Procedures for Home Energy Rating Systems" (Chapter 1 of this Standard), "National Rater Training and Certifying Standard" (Chapter 2 of this Standard); and "RESNET National Standard for Quality Assurance" (Chapter 9 of this Standard).

303 TECHNICAL REQUIREMENTS

303.1 All RESNET Home Energy Ratings conducted in accordance with this Standard shall comply with the provisions of ANSI/RESNET 301-2014, "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using the HERS Index."

Exception 1: RESNET Home Energy Ratings conducted on Dwelling Units; dwelling units in multi-family buildings four and five stories above grade that are certified through EPA's ENERGY STAR certified homes program shall comply with the provisions of ANSI/RESNET 301-2014, notwithstanding the limit on stories, and Sections 303.2 and 303.3.

Exception 2: RESNET Home Energy Ratings conducted on Townhouses and single-family Dwellings four Stories Above Grade Plane in height (e.g., four-Story detached single-family home, four-Story duplex, four-Story Townhouse) shall comply with the provisions of ANSI/RESNET/ICC 301-2014, notwithstanding the limit on stories, and Sections 303.2 and 303.3.

303.2 All Confirmed and Sampled RESNET Ratings shall be registered with the National RESNET Registry in accordance with Sections 102.1.4.10 and 102.1.4.12.

Proposed New Standard EXAMPLE

- Proposed Title
- Proposed Purpose
- Proposed Scope
- Project Need
- Stakeholders



Setting the Standards for
Home Energy Efficiency

RESNET Standards Development New Work Item (NWI) Form

NWI: 600-17-001

(Assigned by Standards Manager
following review and approval)

This request is to:

- Create a new Standard
- Revise an existing Standard

Proponent(s):

Name: Thiel Butner and Elliot Siebert, on behalf of the RESNET Standards Development Committee 300's Multifamily Subcommittee's Sampling Task Group and Daran Wastchak

Affiliation: RESNET
Address: P.O. Box 4561

Oceanside, CA 92052

Phone: 703-517-4345 and 202-343-9643
e-Mail: thiel@pandoalliance.com and seibert.elliott@epa.gov

Proposed Title: Standard for the Sampling of Inspections, Testing, and Energy Ratings

Proposed Purpose: Provide an ANSI-approved standard protocol for the verification, calculation, and labeling of dwelling units, sleeping units, and residential-associated common space when inspecting, testing, and/or calculating the energy performance of fewer than 100% of those spaces while maintaining a high degree of quality assurance.

Proposed Scope: This standard applies to detached dwelling units and dwelling units, sleeping units, and whole-building components in buildings containing multiple units.

Project Need: The current process for applying Sampling was introduced in 2006 in the Mortgage Industry National HERS Standards (MINHERS, Chapter 6) and focused on single family homes. It was adapted for projects with buildings containing multiple units in the RESNET Guidelines for Multifamily Energy Ratings. Significant changes have occurred in the industry since the original text was published, and many lessons have been learned.

Sampling for inspections, testing, and energy ratings is already part of ANSI 301-2014, through reference to MINHERS Chapter 6. This important procedure must be updated for all housing types in order to enhance the national consistency of rating procedures and HERS Index Scores.

In addition to creating a path for providing an updated procedure for single family homes, creating a separate ANSI Standard for Sampling would allow the process to be applied by a wide variety of programs since it could be referenced as a standalone Standard. It may facilitate code adoption of ANSI 301-2019 if Sampling were not included, or it may facilitate code adoption of the Sampling process if it could be referenced independently of inspection, testing, and energy rating protocols. As the first organization to propose the development of an ANSI-approved standard protocol for Sampling, RESNET would have the authority to administer the Sampling process used by all other programs.

Stakeholders: Rating Companies; Quality Assurance Providers; Multifamily Developers, Builders and Remodelers; Insulation, HVAC, and Weatherization Companies or Contractors; Program Administrators (e.g. Government Agencies, Utilities, Residential Building Energy Performance Organizations, Above-Code Programs, and Green Building Programs); Code Enforcement (e.g. ICC); Energy Efficiency and Design Professionals (e.g. non Raters such as Design Consultant, Building Performance Consultant, Energy Efficiency Consultants, Architects and Engineers), homeowners.

How to ask questions about standards

Interpretations

As a HERS Rater or RFI,
ask your Provider first.

■ Submit an Interpretation Request online

- ▶ Responses developed by an SDC (2/3 vote)
- ▶ No public review or public comment period
- ▶ No option to appeal response
- ▶ May trigger an update to the Standard

■ ANSI Standards page with download link

- ▶ <http://www.resnet.us/blog/resnet-consensus-standards/>

■ Non-ANSI Standards page with download link

- ▶ <http://www.resnet.us/professional/standards/mortgage>

ANSI Standards Interpretations

Interpretation:

Designation

No: xxx-xxxx-xxx

Approved:

xx xx, xxxx by RESNET SDC 300

Effective Date:

xx xx, xxxx

Leave this part blank.

+

Request from:

Name:

Affiliation:

Yourself, Your Company, An Organization – Name it

Address:

What part of the country are you in?

City:

State:

Zip:

Telephone:

E-mail:

How could somebody get in touch? Where should we reply?

ANSI Standards Interpretations

Background:

What and
WHY?

(This statement should identify what is unclear or contradictory in the standard and why clarification is necessary.)

Interpretation:

What do
you think?

(State what you consider the clarification should be. Note: Interpretations are solely the opinion of the SDC. There is no public review or comment incorporated in their development. Interpretations should not create new requirements for national consensus standards.)

Question:

Is this Interpretation correct? What do you want to know?

Answer:

(Yes/No)

Comments:

Leave this part blank.

Non-ANSI Standards Interpretations

Interpretation: *(title/name)*

Designation: **MINHERS-2013- no.20??-0?**

Approved: *(date approved)* by **SDC (###)**, *(name)*

Effective Date: *(no earlier than 30 days from approval)*

Proponent: *(name)*

Applies to: MINHERS Chapter *(chapter number and section # as appropriate)*

Issue: **WHAT is unclear or contradictory and WHY is clarification necessary?**

(description)

Interpretation:

(draft interpretation)

Rationale:

(justification for proposed interpretation)

Leave this part blank.

Leave this part blank.

How to get involved

What can you do?

- Read the standards, addenda, and interpretations posted on the RESNET website.
- Apply or enforce the standards.
- Watch for RESNET emails about new standards and addenda.
- Watch for RESNET email notices of public comment periods.
 - ▶ Offer comments on draft standards and addenda.
- Request interpretations.