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

- What are we talking about?
- What’s required by RESNET?
- What’s coming soon?
- Who’s involved?
- What’s the overall process?
- How are they changed?
- All About Public Comments
- Other Ways to be Heard
- How to Get Involved
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?
STANDARDS DEVELOPMENT AUTHORITY

RESNET is responsible for setting and maintaining the standards of quality for the inspection, testing and rating of 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 (SMB) members.

Standards Management Board
- Maintains Policies and Procedures Manuals.
- Analyzes amendments to SDC.
- Reviews amendment actions to ensure compliance with procedures.
- Approves members and terms for SDC.

Standards Development Committees (SDC)
- Consensus Body.
- Membership must be balanced—producers, users, generic.
- Oversees public review and comments.
- Recommends adoption of amendments.
- Approves 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

Volunteers supported by RESNET Staff
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---

**Residential Energy Services Network (RESNET)**

Standards Development Policy and Procedures Manual

Version 1.1

Technical Series 1.01

January 3, 2012

ANSI Certification

[Certificate Image]
Standards Development Committees (SDC)

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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

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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

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
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


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

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
The RESNET Standards

All ANSI-accredited standards

Req’s for HERS Raters and Ratings

ANSI/RESNET/ICC 301 and 380

ANSI

≠

RESNET

ANSI

≠
What’s currently required?
<table>
<thead>
<tr>
<th>Title (All ANSI/RESNET/ICC)</th>
<th>Pub. Date</th>
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<tbody>
<tr>
<td>Addendum A Domestic Hot Water Systems</td>
<td>1/15/16</td>
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<td>Addendum B Innovative Design Requests</td>
<td>1/15/16</td>
<td>1/15/16</td>
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<td>Addendum K Roof Solar Absorptance Test Standard</td>
<td>11/10/17</td>
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<td>Addendum D Standard ANSI/RESNET/ICC 380-2016 and Addenda</td>
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<td>Addendum E House Size Index Adjustment Factors</td>
<td>2/1/18</td>
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[http://www.resnet.us/blog/resnet-consensus-standards/]
# ANSI Standards

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<thead>
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<tr>
<td>Addendum G: Solid State Lighting</td>
<td>2/28/18</td>
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<tr>
<td>Addendum T: Thermal Distribution System Efficiency</td>
<td>11/29/18</td>
<td>12/29/18</td>
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<tr>
<td>Addendum L: Exception to Duct Leakage to Outside Testing* (Supersedes part of Addendum D)</td>
<td>12/3/18</td>
<td>1/2/19</td>
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<td>Addendum N: Appendix B: Inspection Procedures for Minimum Rated Features*</td>
<td>12/6/18</td>
<td>1/5/19</td>
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<td>Addendum R: Threshold Ratings**</td>
<td>12/31/18</td>
<td>1/30/19</td>
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<tr>
<td>Addendum F: Appendix A: Inspection Procedures for Insulation Grading and Assessment*</td>
<td>1/11/19</td>
<td>2/9/19</td>
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* Transition Period End Date: 7/1/19  
** No Transition Period
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<tr>
<td>301-2019</td>
<td>12/18/18</td>
<td>7/1/19 (Target)</td>
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<td>Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index</td>
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<tr>
<td>Addendum A</td>
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<tr>
<td>In progress...</td>
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<td>1201-2016</td>
<td>10/14/16</td>
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<tr>
<td>Standard Method of Test for the Evaluation of Building Energy Analysis Model Calibration Methods</td>
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### ANSI Standards

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<td>2/4/16</td>
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<tr>
<td>and Cooling Air Distribution Systems, and Airflow of Mechanical Ventilation Systems***</td>
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<tr>
<td>Addendum A Attics and Crawlspace</td>
<td>9/12/17</td>
<td>9/12/17</td>
</tr>
<tr>
<td>380-2019 Standard for Testing Airtightness of Building, Dwelling Unit and Sleeping Unit</td>
<td>11/21/18</td>
<td>7/1/19 (Target)</td>
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<tr>
<td>Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of</td>
<td></td>
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<tr>
<td>Mechanical Ventilation</td>
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*** “Transition Period End Date”: 7/1/18
### Non-ANSI Standards

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<tbody>
<tr>
<td>MINHERS</td>
<td>2013</td>
<td>2013</td>
</tr>
<tr>
<td>MINHERS, Continuous Maintenance Version <em>Now includes all addenda required through 1/1/19</em></td>
<td>Ongoing</td>
<td>Now</td>
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</tbody>
</table>


[https://standards.resnet.us/](https://standards.resnet.us/)
## Non-ANSI Standards

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

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

<table>
<thead>
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<th>Title (All BSR/RESNET)</th>
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<tr>
<td>310-201x</td>
<td>Standard for Grading the Installation of HVAC Systems</td>
</tr>
<tr>
<td>600-201x</td>
<td>Standard for the Sampling of Inspections, Testing, and Energy Ratings</td>
</tr>
<tr>
<td>1101-201x</td>
<td>Standard for the Calculation and Labeling of the Water Efficiency of Low-Rise Residential Buildings Using the WER Index</td>
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<tr>
<td>301-202(2)</td>
<td>Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index</td>
</tr>
<tr>
<td>380-202(2)</td>
<td>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</td>
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<tr>
<td>Title</td>
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<tr>
<td>Addendum 30</td>
<td>Quality Assurance°</td>
</tr>
<tr>
<td>Addendum 34</td>
<td>QAD Data File</td>
</tr>
<tr>
<td>Addendum 36</td>
<td>Rater and RFI Recertification; Remove HESP°</td>
</tr>
<tr>
<td>Addendum 37</td>
<td>QAD Disciplinary Actions</td>
</tr>
</tbody>
</table>

° 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.

1. **Proposal Submission:**
   - A proposal for an amendment is submitted to RESNET.
   - The proposal includes details on the change needed.

2. **Review and Approval:**
   - The proposal is reviewed by the RESNET Technical Committee.
   - If approved, it is forwarded to the RESNET Board of Directors for final approval.

3. **Implementation:**
   - Once approved, the new standard is implemented and communicated to all stakeholders.

4. **Maintenance:**
   - Regular updates and revisions are made to ensure the standard remains relevant and effective.

To learn more about RESNET’s standards, visit www.resnet.us/professional.
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.
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
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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.
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® Standards Update

RESNET Proposes Two Standard Addenda:


&

Draft PDS-02 of proposed Addendum 30: Quality Assurance

Comment Period February 21, 2019 – March 22, 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;
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.
What is “open” for comment?
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
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.

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:

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<th><strong>Commenter</strong></th>
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<tr>
<td><strong>First Name:</strong> *</td>
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<td><strong>Last Name:</strong> *</td>
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<td><strong>Affiliation:</strong> *&lt;br&gt;(who you represent)</td>
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<td><strong>State/Province:</strong> *&lt;br&gt;Select a State</td>
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<td><strong>Email Address:</strong> *</td>
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How could somebody get in touch? Where should we reply?
<table>
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<tr>
<th>Comment</th>
<th>Which page should the reviewers have open?</th>
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<tbody>
<tr>
<td></td>
<td>Which part of the page should the reviewers look at?</td>
</tr>
</tbody>
</table>

- **Page Number:** *必需*
- **Section/Table/Figure Number:**
- **Comment Intent:** *必需*
  - Select a Comment Intent
  - Objection
  - Not an Objection
- **Comment Type:** *必需*
  - 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
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?
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.
Use "strike" and "underline" formatting and include the entire section/subsection to which the change will be proposed.

- **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
### Building Element: Light Fixtures

<table>
<thead>
<tr>
<th>Rated Feature</th>
<th>Task</th>
<th>On-Site Inspection Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Qualifying and non-qualifying Light Fixtures</td>
<td>Calculate percentage of Qualifying Light Fixtures by dividing the part by the whole</td>
<td>Record whether the Qualifying Light Fixtures are or are not installed at the time of the inspection. If the Qualifying Light Fixtures are installed at the time inspection, then determine if they are Tier I or Tier II. 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.</td>
</tr>
</tbody>
</table>

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

Proposed Change

<table>
<thead>
<tr>
<th>Building Element: Light Fixtures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Feature</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Number of Qualifying and non-qualifying Light Fixtures</td>
</tr>
</tbody>
</table>
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

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.

A-2.1.1.2 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 ½ 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 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:
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 \( \frac{3}{4} \text{ inch} \) 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. 3/4” maximum) for batt or loose-fill compared to SPF insulation is not technically justified. Especially considering the fact having 3/4” 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, 3/4” 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

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 Volume – 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 crawl space 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 crawl space, 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.

Unvented Conditioned Space – A building location used only in Ratings of attached units, beyond the boundaries of the rated Dwelling Unit and served 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 Unvented Conditioned Space is not counted in the Rated Home or Energy Rating Reference Home. This is distinct from Unvented Heated Space, and from Conditioned Space Volume.

<table>
<thead>
<tr>
<th>Building Element: Floor/Foundation Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Feature</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Identify floor of Attached Dwelling Unit over Multifamily Buffer Boundary, Unvented Conditioned Space, Unvented Heated Space, or Non-Freezing Space</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Framing members</td>
</tr>
<tr>
<td>Interior surface condition</td>
</tr>
</tbody>
</table>

(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.
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  _____X____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](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 *

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:**

[Choose File] No file chosen

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

**Background/Rationale for Proposed Amendment:**

[Choose File] No file chosen

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

[SUBMIT]
Proposed Amendment EXAMPLE

RESNET.

Proposed Standard Revision

Date Approved: January 15, 2018
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 IDE, which was not intended for authorizing ratings for designs that are arguable 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.

Justification

Sections to change

Proposed change, in strikeout/underline 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 a consistent home energy rating system, consistent with the provisions of the Energy Policy Act 1992 that any provider of home energy ratings may choose to produce uniform energy ratings for 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 containing three Stories Above Grade Plane in height, containing multiple Dwelling Units, and multi-family residential buildings, three stories or less in height, excepting hotels and motels.

Exception 1: These Standards also apply to Dwelling Units containing 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 Townhouse and single-family Dwelling 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 Rating Training and Certifying Standard” (Chapter 2 of this Standard), and “RESNET National Standard for Quality Assurance” (Chapter 9 of this Standard).

302 TECHNICAL REQUIREMENTS

302.1.1 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 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 Dwelling Units in single-family dwellings four Stories Above Grade Plane in height may be certified to the limit on stories, and Sections 303.2 and 303.3.

302.2 All Conformed and Stamped RESNET Ratings shall be registered with the National RESNET Registry in accordance with Sections 102.1.4.10 and 102.1.4.12.
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 Butnor 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.elliot@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

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


Non-ANSI Standards page with download link

- [http://www.resnet.us/professional/standards/mortgage](http://www.resnet.us/professional/standards/mortgage)
## ANSI Standards Interpretations

**Interpretation:**

<table>
<thead>
<tr>
<th>Designation</th>
<th>No: xxx-xxxx-xxx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved:</td>
<td>xx xx, xxxx by RESNET SDC 300</td>
</tr>
<tr>
<td>Effective Date:</td>
<td>xx xx, xxxx</td>
</tr>
</tbody>
</table>

### Request from:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Yourself, Your Company, An Organization – Name it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td>State:</td>
</tr>
</tbody>
</table>

**What part of the country are you in?**

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

**Telephone:**

**E-mail:**
### 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)
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.