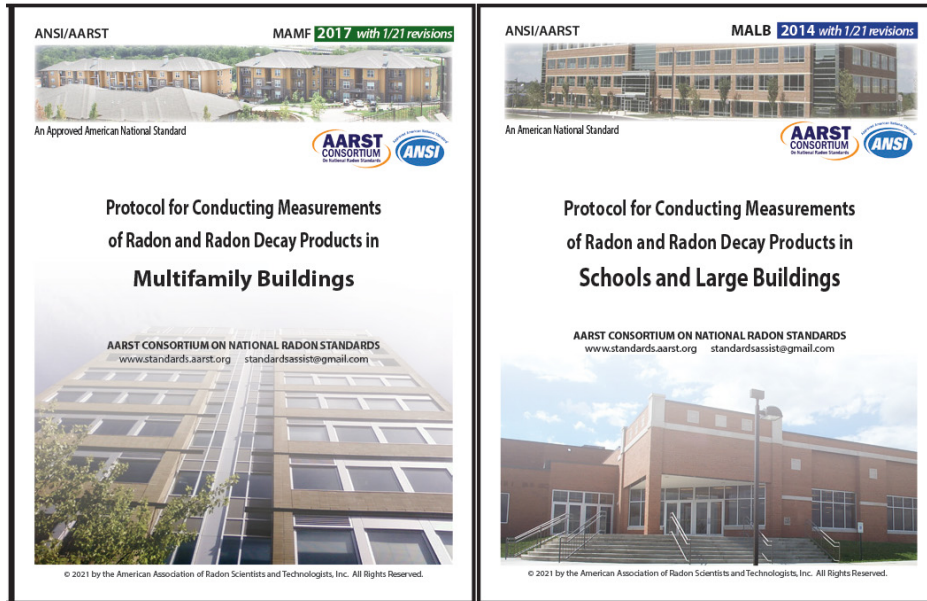


Harmonization and Update effort for MAH, MAMF and MALB Measurement Standards

Continuous maintenance efforts to improve these standards are currently ongoing.



MAMF- MALB Updates 3/22 Read me

These proposed revisions address related certification or listing programs, locations with invalid tests, and guidance when initial tests are elevated. The proposed revisions are applicable to the following ANSI/AARST publications:

- MAMF 2017 rev.1-21
- MALB 2014 rev.1-21

Latest published versions of those standards are available for comparison at www.standards.aarst.org where all ANSI/AARST standards can be found for review at no charge and for purchase.

The current mitigation standards committee roster (consensus body) can be linked to from www.standards.aarst.org/public-review. The current work project includes (1) harmonization, where possible, for all portions of these documents to read the same for the same tasks; (2) update based on new experiences, and (3) renderings that are more conducive to stakeholders who are involved in compliance assessment.

Public Review: MAMF/MALB Updates 3-22 **COMMENT DEADLINE: May 23rd, 2022**

REQUESTED PROCESS AND FORM FOR FORMAL PUBLIC REVIEW COMMENTS

Submittals (MS Word preferred) may be attached by email to StandardsAssist@gmail.com

- 1) Do not submit marked-up or highlighted copies of the entire document.
- 2) If a new provision is proposed, text of the proposed provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format.
- 3) For substantiating statements: Be brief. Provide abstract of lengthy substantiation. (If appropriate, full text may be enclosed for project committee reference.)

REQUESTED FORMAT

Title of Public Review Draft: **MAMF/MALB Updates 3-22**

- **Name:** _____ **Affiliation:** _____
- **Clause or Subclause:** _____
- **Comment/Recommendation:** _____
- **Substantiating Statements:** _____
- Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment.

Repeat the five bullet items above for each comment.

Requested registration of your contact information and copyright release.

**ONE TIME REGISTRATION
CONTACT INFORMATION AND COPYRIGHT RELEASE**

NOTE: AARST Consortium on National Radon Standards encourages original commentary on its standards. Commenters that choose to submit comments without an author's signature (due to difficulties in timeliness, proximity or other) shall be deemed to have done so at their sole discretion and have thereby acknowledged and accepted the copyright release herein. If commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author and representing commenters may be asked to engage in dialog supporting their position.

Name: _____ Affiliation: _____
Address: _____ City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____ E-mail: _____

Copyright Release:

I hereby grant the AARST National Radon Standards Consortium the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: _____
Date _____

PLEASE SHIP TO: StandardsAssist@gmail.com Commenters are responsible for informing the standards assistant staff a when changing contact information or other preferences.

Notice regarding unresolved objections: While each committee seeks to resolve objections, please notify the committee responsible for an action or inaction if you desire to recirculate any unresolved objections to the committee for further consideration. Notice of right to appeal. (See Bylaws for the AARST Consortium on National Radon Standards - Operating Procedures for Appeals available at www.radonstandards.us, Standards Forum, Bylaws): (2.1) Persons or representatives who have materially affected interests and who have been or will be adversely affected by any substantive or procedural action or inaction by AARST Consortium on National Radon Standards committee(s), committee participant(s), or AARST have the right to appeal; (3.1) Appeals shall first be directed to the committee responsible for the action or inaction.

AARST Consortium on National Radon Standards

Website: www.standards.aarst.org

Email: StandardsAssist@gmail.com

527 N Justice Street, Hendersonville, NC 28739

The Consortium Consensus Process

The consensus process developed for the AARST Consortium on National Radon Standards and as accredited to meet essential requirements for American National Standards by the American National Standards Institute (ANSI) has been applied throughout the process of approving this document.

Continuous Maintenance

This standard is under continuous maintenance by the AARST Consortium on National Radon Standards for which the Executive Stakeholder Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard.

User Tools: User tools are posted online (www.standards.aarst.org/public-review) as they become available (such as templates for field notices, inspection forms, interpretations and approved addenda updates across time).

Notices

Notice of right to appeal: Bylaws for the AARST Consortium on National Radon Standards are available at www.standards.aarst.org/public-review. Section 2.1 of Operating Procedures for Appeals (Appendix B) states, "Persons or representatives who have materially affected interests and who have been or will be adversely affected by any substantive or procedural action or inaction by AARST Consortium on National Radon Standards committee(s), committee participant(s), or AARST have the right to appeal; (3.1) Appeals shall first be directed to the committee responsible for the action or inaction."

Disclaimer: The AARST Consortium on National Radon Standards strives to provide accurate, complete and useful information. The AARST Consortium on National Radon Standards will make every effort to correct errors brought to its attention. However, neither the AARST Consortium on National Radon Standards, its sponsoring organization the American Association of Radon Scientists and Technologists nor any person contributing to the preparation of this document makes any warranty, express or implied, with respect to the usefulness or effectiveness of any information, method or process disclosed in this material. Nor does AARST or the AARST Consortium on National Radon Standards assume any liability for the use of, or for damages arising from the use of, any information, method or process disclosed in this document. It is the sole responsibility of radon practitioners using this standard to stay current with changes to the standard and to comply with local, state and federal codes and laws relating to their practice.

MAMF/MALB

Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings, Schools and other Non-residential or Mixed-Use Buildings



Proposed Maintenance Updates for MAMF/MALB 03/22

Commentary/Rationale: The proposed revision to Section 2.3.1 is to align with ANSI Essential Requirements 2021 when personal or product certifications or listings are required by a standard.

2.3 Testing Devices

2.3.1 *Approved test devices required*

All test devices used for determining if *mitigation* is warranted are to be listed by one of the following authorities for having proven to meet minimum quality requirements:

- a) as established by the National Radon Proficiency Program (NRPP), the National Radon Safety Board (NRSB) or a program that verifies device compliance with the latest publication of ANSI/AARST MS-PC; or
- b) as required by local statutes for jurisdictions that have a program for evaluating and approving devices.

Note—Minimum requirements for test device accuracy are published in ANSI/AARST MS-PC “*Performance Specifications for Instrumentation Systems Designed to Measure Radon Gas in Air.*”

Commentary/Rationale: The proposed revision to Section 2.4.1 is to align with ANSI Essential Requirements 2021 when personal or product certifications or listings are required by a standard.

2.4 Who Should Conduct the Testing?

2.4.1 *Qualified measurement professionals*

For testing multifamily buildings, a “*Qualified Measurement Professional*” is defined as:

“An individual that has demonstrated a minimum degree of appropriate technical knowledge and skills both sufficient to place, retrieve and analyze (as applicable) *radon* detectors and to design, plan, and implement quality procedures when conducting *radon* measurements in multifamily buildings, schools and other non-residential or mixed-use buildings:

- a) as established in *certification requirements*¹ of the National Radon Proficiency Program (NRPP), or the National Radon Safety Board (NRSB) or equivalent national program²; and
- b) as required by local statute, state licensure or certification programs that evaluate individuals for radon-specific technical knowledge and skills.

¹ The definition of “*certification requirements*” is located Section 9, *Description of Terms*. The definition includes minimum educational requirements associated with listing or certification of qualified mitigation professionals.

² Note that identification of the two competing certification bodies listed is not an endorsement of either program. The definition of “*equivalent national program*” is located Section 9, *Description of Terms*.

Commentary/Rationale: These proposed additions to Section 9 (Description of terms) are to elaborate on what is meant by the term “equivalent programs” as compared to the benchmark established for 25 years by the two competing national programs identified in Section 2.4.

Section 9 Description of terms

Equivalent National Program: A national program that evaluates and lists qualified individuals, training courses and other products or services, such as laboratory services, integral to achieving public health goals intended by this standard. Equivalent programs are programs with published policies that:

- (1) require persons to undergo education and an impartial examination process prior to granting personal certification or certificates of educational achievement;
- (2) have a written policy and means for receiving and adjudicating complaints against individuals who have been granted the credential; and
- (3) require surveillance of continued competence, not less than as demonstrated by continuing education in related technical knowledge and skills, prior to granting recertification or renewed certificates.

Commentary/Rationale: The proposed additions for certification and listing requirements are to elaborate on minimum educational requirements as historically associated with the two competing national programs identified in Section 2.4.

Note—Where certification or listing programs are pending and are not active when this standard is published, these definitions will be modified prior to publishing.

Certification Or Listing Requirements (Qualified Radon Measurement Professionals-Multifamily and Commercial): Listing or certification credentials granted by the *equivalent national programs* that qualify individuals as proficient in design, planning, and implementing quality procedures when conducting *radon* measurements in multifamily buildings, schools and other non-residential or mixed-use buildings to include:

- (1) current certification as a *qualified radon measurement professional* in existing homes; and
- (2) prior to granting advanced level certifications or listings, additional education and processes approved by the program relative to tasks required in this standard.

Commentary/Rationale: The proposed revision to Section 6.2 is to add editorial clarity.

6.2 Quality Control for Number of Valid Tests

For dwellings or non-residential rooms where access problems, test conditions, or other reasons or situations prevented achieving a valid test result, *follow-up procedures* shall include testing all locations that were intended to be tested but did not result in valid measurements.

6.2.1 Unless it is decided to proceed with *mitigation*, test procedures shall continue until a valid test is achieved at all locations that were intended to be tested.

Exceptions:

- ~~a) Where it is decided to proceed with *mitigation*; or~~
- ~~b) Where all other test locations in the building are less than 2.0 pCi/L (75 Bq/m³) and the number of missing valid tests in *ground-contact* locations of the building do not exceed the allowance in **Table 6.2**.~~

Exception: Where both of the following conditions are met:

- a) The number of missing valid tests in *ground-contact* locations of the building **does** not exceed the allowance provided in **Table 6.2**; and
- b) All other test locations in the building are less than 2.0 pCi/L (75 Bq/m³).

Table 6.2

Ground-contact Test Locations:	4-7	8-11	12-15	16-19	20 or more
Allowance:	1	2	3	4	5

Commentary/Rationale: The proposed revision to Section 8.2.6 is to clarify an intended message that mitigation can proceed at any time.

8.2.6 Elevated Radon Concentrations

Guidance in *summary reports* and otherwise provided where test results meet or exceed the *action level* shall comply with all applicable requirements in a), b), c), d) and f) of this **Section 8.2.6**.

a) Mitigation Prior to Test Completion

—When multiple test locations in close proximity to each other indicate elevated concentrations, Recommendations to mitigate are permitted at any time prior to completion of all planned test procedures. When reporting that *mitigation* could be warranted:

1. The recommendations shall include the following or equivalent statement: “Decisions on whether to mitigate are more fully informed once all testing is complete;” and
2. The recommendations shall be disclosed in a manner approved by the *client* in accordance with a *client's* pre-established directives on disclosing test data, as described in **Section 2.6.3**.

Commentary/Rationale: The content in A-2.3 was intended to serve as a deterrent when resistance to limiting variable ventilation is encountered. It represented a deterrent because it is impractical and not cost effective. It may be provided in informational guidance to serve that educational purpose. But it is being deleted as an option because it is potentially ripe for misinterpretation.

~~A-2.3 Variable outdoor air ventilation~~

—Because the duration and volume of outside air is dynamically variable for energy recovery ventilation and economizer systems, additional testing that meets requirements in a) or b) of this **Section A-2.3** are required before any valid assumptions can be made. In absence of these procedures, no assumptions shall be reported regarding the effects of varying the volume of outdoor air ventilation.

~~a) Simulation of conditions requires both:~~

- ~~1. A calculation that plots incremental changes of outdoor temperatures across a 365 day period and the corresponding volumes of modulated outdoor air introduced into the building at any given time, and~~
- ~~2. Radon testing to confirm the degree of outdoor air required for maintaining concentrations to below the *action level*.~~

~~b) For radon testing of dwellings, or other 24 hour occupancies, the test duration shall be nominally 365 days or 180 days. The 180 day option shall include half of the heating season, half of the cooling season and the duration in between.~~

—Note—These testing options account for widely varying degrees of outdoor air introduced into the building where the outdoor air volume is modulated in response to incremental changes in outdoor temperature.