DEPARTMENT OF HEALTH

Client Advisories Prior to Testing

Testing will be conducted in compliance with ANSI/AARST MA-MFLB 2023 and the Minnesota Radon Licensing Act.

- Tests will be done in 100% ground contact residential units and non-residential rooms that are occupied or intended to be occupied.

- In addition, 10% of residential units and non-residential rooms will be tested on each upper floor, with a minimum of one test per floor.

- Quality control measurements will be done at 10% duplicates (extended testing option), 5% blanks, and 3% spikes.

- Closed-building conditions must be maintained at least 12-hours prior to and during the test.

There are two test options that comply with the standards:

Time-Sensitive Testing	Extended Testing
Tests at each location are tested using two short-term test devices or a continuous radon monitor	Tests at each location are conducted using a single short-term test device
	All locations that meet or exceed the action level (4.0 pCi/L) are retested
Decisions to mitigate are based on the results of the average of the two short-term test devices or the average from a continuous radon monitor	Decisions to mitigate are based on the results of the average of the two rounds of testing

Failure to reasonably maintain test conditions can lead to unnecessary expense, disruptions, and unreliable data. Disturbing test devices can also cause reliable and invalid test results.

To aid in proper test conditions, the measurement professional will:

- Inform the person responsible for building operations of the required test conditions,

- Ensure "Radon Test in Progress" signs are posted in prominent locations,

- Attempt to obtain a signed statement from onsite supervisors or facilitating staff members that they will aid in the quality control of closed-building conditions, and

- Conduct a visual inspection upon detector placement and retrieval to ensure all closed-building conditions are met.

Please provide, in writing, a list of who is authorized to receive test data and at which junctures data should be provided.

Instructions for Notifying Individual of Test Conditions

Proper notification is essential to get compliance with required testing conditions.

Enclosed are notification forms for facilitating staff such as authorized building supervisors, maintenance staff, teachers, or office managers. Facilitating staff should ensure closed-building conditions are met in non-residential spaces at least 12-hours prior to the test and maintained during the test period.
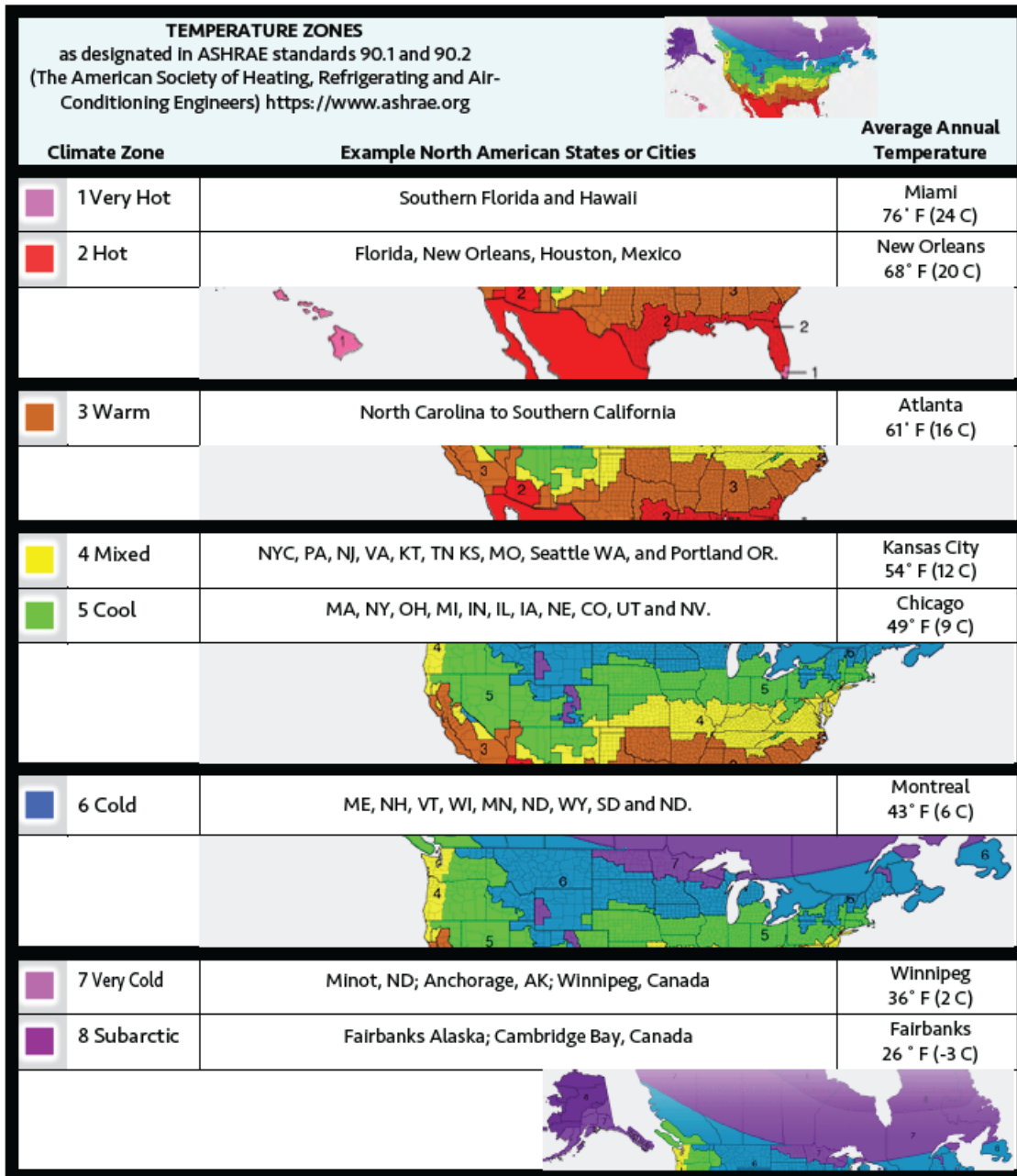
In addition, notifications must be distributed to all occupants of tested and not-tested units and contain:

- Scheduled dates and times for test device placement and retrieval,
- Essential closed-building requirements portrayed in Table 4-A of the ANSI/AARST standard and that these conditions are required no later than 12 hours prior to the test and throughout the test period,
- Information on how to obtain federal or state radon health guidance, and
- Local contact information for inquiries, such as the authorized building supervisor.

Enclosed are notification forms for occupants. Please distribute notifications to occupants at least 24 hours prior to testing. Notifications also need to be posted in prominent areas such as entry doors and community bulletins.

Normal Occupied Building Conditions

Minnesota is in Temperature Zones 6 and 7. Across the state, the prevailing HVAC condition is heating. Radon testing is recommended during the heating season.

TEMPERATURE ZONES
as designated in ASHRAE standards 90.1 and 90.2
(The American Society of Heating, Refrigerating and Air-Conditioning Engineers) https://www.ashrae.org

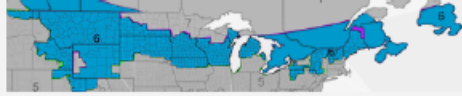| Climate Zone	Example North American States or Cities	Average Annual Temperature
1 Very Hot	Southern Florida and Hawaii	Miami 76° F (24 C)
2 Hot	Florida, New Orleans, Houston, Mexico	New Orleans 68° F (20 C)
3 Warm	North Carolina to Southern California	Atlanta 61° F (16 C)
4 Mixed	NYC, PA, NJ, VA, KT, TN KS, MO, Seattle WA, and Portland OR.	Kansas City 54° F (12 C)
5 Cool	MA, NY, OH, MI, IN, IL, IA, NE, CO, UT and NV.	Chicago 49° F (9 C)
6 Cold	ME, NH, VT, WI, MN, ND, WY, SD and ND.	Montreal 43° F (6 C)
7 Very Cold	Minot, ND; Anchorage, AK; Winnipeg, Canada	Winnipeg 36° F (2 C)
8 Subarctic	Fairbanks Alaska; Cambridge Bay, Canada	Fairbanks 26 ° F (-3 C)

Very Cold
Climate Zone 7
Includes many Canadian provinces, mountain tops, and utmost northern locations in the United States
This data is based on Minot, ND

24 Hour Averages
For dwellings and other 24 hour occupancies

24 Hour		Annual Avg		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
7-Very cold	Minot, ND	39		56	45	26	14	6	11	21	41	53	61	68	67

		Prevailing Annually	
Operating Condition	Heating Conditions	83%	
	Cooling Conditions	-	
	Mixed Conditions	16%	

Normal Operating Condition	• Heating conditions • No variance in outdoor air ventilation
Condition less likely to inhibit characterization of a radon hazard	• Heating and air distribution systems active

Daytime Averages
For non-residential occupancies

Daytime		Annual Avg	School Avg	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
7-Very cold	Minot, ND	45	36	63	51	31	19	11	16	26	47	59	67	75	74

		Prevailing Annually	School (prevailing across 9 months)
Operating Condition	Heating Conditions	75%	100%
	Cooling Conditions	-	-
	Mixed Conditions	25%	-

Normal Operating Condition	• Heating conditions • No variance in outdoor air ventilation
Condition less likely to inhibit characterization of a radon hazard	• Heating and air distribution systems active

Some Cities in This Climate Zone
Note—Exact percentages will vary slightly depending upon location

Caribou ME
Quebec, CA
Marquette MI
Duluth MN
Winnipeg, CA
Grand Forks, ND
Anchorage, AK

Breckenridge, CO
Aspen, CO

Cold

Climate Zone 6
Includes portions of ME, NH, VT, WI, MN, ND, WY, SD, ND and Canada.
This data is based on Minneapolis, MN

24 Hour Averages
For dwellings and other 24 hour occupancies

24 Hour		Annual Avg		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
6 Cold	Minneapolis, MN	45		61	50	33	19	13	18	31	46	59	68	73	71

		Prevailing Annually	
Operating Condition	Heating Conditions	75%	
	Cooling Conditions	-	
	Mixed Conditions	25%	

Normal Operating Condition	• Heating conditions • No variance in outdoor air ventilation
Condition less likely to inhibit characterization of a radon hazard	• Heating and air distribution systems active

Daytime Averages
For non-residential ocupancies

Daytime		Annual Avg	School Avg	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
6 Cold	Minneapolis, MN	50	41	66	55	37	23	17	23	35	51	64	73	78	76

		Prevailing Annually	School (prevailing across 9 months)
Operating Condition	Heating Conditions	66%	88%
	Cooling Conditions	16%	11%
	Mixed Conditions	16%	-

Normal Operating Condition	• Heating conditions • No variance in outdoor air ventilation
Condition less likely to inhibit characterization of a radon hazard	• Heating and air distribution systems active

Some Cities in This Climate Zone
Note—Exact percentages will vary slightly depending upon location

Portland, ME
Buffalo, NY
Burlington, NH
Milwaukee, WI
Minneapolis, MN
Bismarck, ND
Pierre, SD
Cheyenne, WY
Billings, MT
Helena, MT

Minnesota Department of Health, Indoor Air Unit, health.indoorair@state.mn.us, mn.gov/radon

10/25/2023 To obtain this information in a different format, call: 651-201-4621.