

APPENDIX AQ

TINY HOUSES

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note:

About this appendix: Appendix AQ relaxes various requirements in the body of the code as they apply to houses that are 400 square feet in area or less. Attention is specifically paid to features such as compact stairs, including stair handrails and headroom, ladders, reduced ceiling heights in lofts and guard and emergency escape and rescue opening requirements at lofts.

SECTION AQ101 GENERAL

AQ101.1 Scope. This appendix shall be applicable to *tiny houses* used as single *dwelling units*. *Tiny houses* shall comply with this code except as otherwise stated in this appendix.

SECTION AQ102 DEFINITIONS

AQ102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

[W] ~~((EGRESS ROOF ACCESS WINDOW. A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements of Section R310.2.))~~

[W] ~~((LANDING PLATFORM. A landing provided as the top step of a stairway accessing a loft.))~~

[W] ~~((LOFT. A floor level located more than 30 inches (762 mm) above the main floor, open to the main floor on one or more sides with a ceiling height of less than 6 feet 8 inches (2032 mm) and used as a living or sleeping space.))~~

[W] TINY HOUSE. A *dwelling* that is 400 square feet (37 m²) or less in floor area excluding *lofts*.

SECTION AQ103 CEILING HEIGHT

[W] **AQ103.1 Minimum ceiling height.** *Habitable space* ~~((and hallways))~~ in *tiny houses* shall have a ceiling height of not less than 6 feet 8 inches (2032 mm). Bathrooms, toilet rooms and kitchens shall have a ceiling height of not less than 6 feet 4 inches (1930 mm). Obstructions including, but not limited to, beams, girders, ducts and lighting, shall not extend below these minimum ceiling heights.

Exception: Ceiling heights in *lofts* ~~((are permitted to))~~ shall be ~~((less than 6 feet 8 inches (2032 mm))~~) in accordance with Section R326.

[W] SECTION AQ104 ~~((LOFTS))~~ ENERGY CONSERVATION

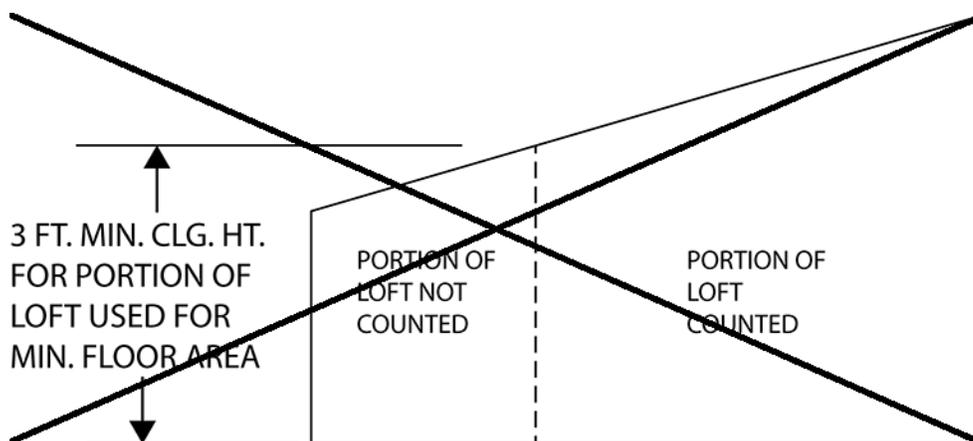
~~((AQ104.1 Minimum loft area and dimensions. Lofts used as a sleeping or living space shall meet the minimum area and dimension requirements of Sections AQ104.1.1 through AQ104.1.3.))~~

~~**AQ104.1.1 Minimum area.** Lofts shall have a floor area of not less than 35 square feet (3.25 m²).~~

~~**AQ104.1.2 Minimum horizontal dimensions.** Lofts shall be not less than 5 feet (1524 mm) in any horizontal dimension.~~

~~**AQ104.1.3 Height effect on loft area.** Portions of a *loft* with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft. See Figure AQ104.1.3.~~

~~**Exception:** Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50 percent slope), portions of a *loft* with a sloped ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the *loft*.~~



For SI: 1 foot = 304.8 mm.

FIGURE AQ104.1.3
HEIGHT EFFECT ON LOFT AREA

AQ104.2 Loft access and egress. The access to and primary egress from *lofts* shall be of any type described in Sections AQ104.2.1 through AQ104.2.5. The *loft* access and egress element along its required minimum width shall meet the *loft* where its ceiling height is not less than 3 feet (914 mm).

AQ104.2.1 Stairways. Stairways accessing *lofts* shall comply with this code or with Sections AQ104.2.1.1 through AQ104.2.1.7.

AQ104.2.1.1 Width. Stairways accessing a *loft* shall not be less than 17 inches (432 mm) in clear width at or above the *handrail*. The width below the *handrail* shall be not less than 20 inches (508 mm).

AQ104.2.1.2 Headroom. The headroom above stairways accessing a *loft* shall be not less than 6 feet 2 inches (1880 mm), as measured vertically, from a sloped line connecting the tread, landing or landing platform *nosings* in the center of their width and vertically from the landing platform along the center of its width.

AQ104.2.1.3 Treads and risers. *Risers* for stairs accessing a *loft* shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three fourths of the tread depth.

AQ104.2.1.4 Landings. Intermediate landings and landings at the bottom of stairways shall comply with Section R311.7.6, except that the depth in the direction of travel shall be not less than 24 inches (610 mm).

AQ104.2.1.5 Landing platforms. The top tread and *riser* of stairways accessing *lofts* shall be constructed as a *landing platform* where the *loft* ceiling height is less than 6 feet 2 inches (1880 mm) where the stairway meets the *loft*. The *landing platform* shall be not less than 20 inches (508 mm) in width and in depth measured horizontally from and perpendicular to the *nosings* of the landing platform. The landing platform riser height to the *loft* floor shall be not less than 16 inches (406 mm) and not greater than 18 inches (457 mm).

AQ104.2.1.6 Handrails. *Handrails* shall comply with Section R311.7.8.

AQ104.2.1.7 Stairway guards. Guards at open sides of stairways, landings and landing platforms shall comply with Section R312.1.

AQ104.2.2 Ladders. Ladders accessing *lofts* shall comply with Sections AQ104.2.1 and AQ104.2.2.2.

AQ104.2.2.1 Size and capacity. Ladders accessing *lofts* shall have a rung width of not less than 12 inches (305 mm); and 10-inch (254 mm) to 14-inch (356 mm) spacing between rungs. Ladders shall be capable of supporting a 300-pound (136 kg) load on any rung. Rung spacing shall be uniform within 3/8 inch (9.5 mm).

AQ104.2.2.2 Incline. Ladders shall be installed at 70 to 80 degrees from horizontal.

AQ104.2.3 Alternating tread devices. Alternating tread devices accessing *lofts* shall comply with Sections R311.7.11.1 and R311.7.11.2. The clear width at and below the *handrails* shall be not less than 20 inches (508 mm).

AQ104.2.4 Ship's ladders. Ship's ladders accessing *lofts* shall comply with Sections R311.7.12.1 and R311.7.12.2. The clear width at and below *handrails* shall be not less than 20 inches (508 mm).

AQ104.2.5 Loft guards. *Loft guards shall be located along the open sides of lofts. Loft guards shall be not less than 36 inches (914 mm) in height or one-half of the clear height to the ceiling, whichever is less. Loft guards shall comply with Section R312.1.3 and Table R301.5 for their components.))*

[W] AQ104.1 Air leakage testing. The air leakage rate for tiny houses shall not exceed 0.30 cfm at 50 Pascals of pressure per feet of the dwelling unit enclosure area. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed after the continuous air barrier, including all penetrations, is completed and sealed.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior louvers for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

AQ104.1.1 Whole house mechanical ventilation. Where an air leakage rate not exceeding 0.30 cfm per ft of the dwelling unit enclosure area in accordance with Section AQ106.1 is provided, the tiny house shall be provided with whole house mechanical ventilation in accordance with Section M1505.4.

[W] ((SECTION AQ105 EMERGENCY-ESCAPE AND RESCUE OPENINGS

AQ105.1 General. *Tiny houses shall meet the requirements of Section R310 for emergency escape and rescue openings.*

Exception: *Egress roof access windows in lofts used as sleeping rooms shall be deemed to meet the requirements of Section R310 where installed such that the bottom of the opening is not more than 44 inches (1118 mm) above the loft floor, provided the egress roof access window complies with the minimum opening area requirements of Section R310.2.1.))*

[S] ((SECTION AQ106 ENERGY CONSERVATION

AQ106.1 Air leakage testing. *The air leakage rate for tiny houses shall not exceed 0.30 cubic feet per minute at 50 Pascals of pressure per square foot of the dwelling unit enclosure area. The air leakage testing shall be in accordance with the testing methods required in Section N1102.4.1.2. The dwelling unit enclosure area shall be the sum of the areas of ceilings, floors and walls that separate the conditioned space of a dwelling unit from the exterior, its adjacent unconditioned spaces and adjacent dwelling units.*

AQ106.1.1 Whole house mechanical ventilation. *Where the air leakage rate is in accordance with Section AQ106.1, the tiny house shall be provided with whole house mechanical ventilation in accordance with Section M1505.4.*

AQ106.2 Alternative compliance. *Tiny houses shall be deemed to be in compliance with Chapter 11 of this code and Chapter R4 of the International Energy Conservation Code, provided that the following conditions are met:*

1. *The insulation and fenestration meet the requirements of Table N1102.1.2.*
2. *The thermal envelope meets the requirements of Section N1102.4.1.1 and Table N1102.4.1.1.*
3. *Solar, wind or other renewable energy source supplies not less than 90 percent of the energy use for the structure.*
4. *Solar, wind or other renewable energy source supplies not less than 90 percent of the energy for service water heating.*
5. *Permanently installed lighting is in accordance with Section N1104.*
6. *Mechanical ventilation is provided in accordance with Section M1505 and operable fenestration is not used to meet ventilation requirements.))*

