

2024 RESIDENTIAL CODE

SECTION R309 **AUTOMATIC SPRINKLER SYSTEMS**

R309.1 Townhouse automatic sprinkler systems.

An automatic sprinkler system shall be installed in *townhouses*.

Exception: An automatic sprinkler system shall not be required where *additions* or *alterations* are made to existing *townhouses* that do not have an automatic sprinkler system installed.

R309.1.1 Design and installation

Automatic sprinkler systems for *townhouses* shall be designed and installed in accordance with Section P2904 or NFPA 13D.

R309.2 One- and two-family dwellings automatic sprinkler systems.

An automatic sprinkler system shall be installed in one- and two-family *dwellings*.

Exception: An automatic sprinkler system shall not be required for *additions* or *alterations* to existing *buildings* that are not already provided with a sprinkler system.

R309.2.1 Design and installation.

Automatic sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.

SECTION R311 **CARBON MONOXIDE ALARMS**

R311.1 General.

Carbon monoxide alarms shall comply with Section R311.

R311.1.1 Listings

Carbon monoxide alarms shall be *listed and labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed and labeled* in accordance with UL 217 and UL 2034.

R311.1.2 Installation.

Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their listing and the manufacturer's instructions.

R311.2 Where required

Carbon monoxide alarms shall be provided in accordance with Sections R311.2.1 and R311.2.2.

R311.2.1 New construction

For new construction, *carbon monoxide alarms* shall be provided in *dwelling units* where either or both of the following conditions exist.

1. The *dwelling unit* contains a fuel-fired *appliance*.
2. The *dwelling unit* has an attached garage with an opening that communicates with the *dwelling unit*.

R311.2.2 Alterations, repairs and additions.

Where *alterations*, *repairs* or *additions* requiring a *permit* occur, the individual *dwelling unit* shall be equipped with *carbon monoxide alarms* located as required for new *dwellings*.

Exceptions:

1. Work involving the exterior surfaces of *dwelling*s, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
2. Installation, *alteration* or repairs of plumbing systems.
3. Installation, *alteration* or repairs of *mechanical systems* that are not fuel fired.

R311.3 Location.

Carbon monoxide alarms in *dwelling units* shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning *appliance* is located within a bedroom or its attached bathroom, a *carbon monoxide alarm* shall be installed within the bedroom.

R311.4 Combination alarms.

Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of *carbon monoxide alarms*.

R311.5 Interconnectivity.

Where more than one *carbon monoxide alarm* is required to be installed within an individual *dwelling unit* in accordance with Section R311.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual *dwelling unit*. Physical interconnection of *carbon monoxide alarms* shall not be required where *listed* wireless alarms are installed and all alarms sound upon activation of one alarm.

Exception: Interconnection of *carbon monoxide alarms* in existing areas shall not be required where *alterations* or *repairs* do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an *attic*, *crawl space* or *basement* available that could provide access for interconnection without the removal of interior finishes.

R311.6 Power source.

Carbon monoxide alarms shall receive their primary power from the *building wiring* where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

1. *Carbon monoxide alarms* shall be permitted to be battery operated where installed in *buildings* without commercial power.
2. *Carbon monoxide alarms* installed in accordance with Section R311.2.2 shall be permitted to be battery powered.

R105.2 Work exempt from permit

Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. *Permits* shall not be required for the following:

Building:

1. Other than *storm shelters*, one-story detached *accessory structures*, provided that the floor area does not exceed 200 square feet (18.58 m²).
2. Fences not over 7 feet (2134 mm) high.
3. *Retaining walls* that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. Sidewalks and driveways.
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet (18.58 m²) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a *dwelling* or *townhouse* and do not serve the exit door required by Section R318.4.

R108.5 Refunds.

The *building official* is authorized to establish a refund policy.

R101.1 Title.

These provisions shall be known as the *Residential Code for One- and Two-family Dwellings* of [NAME OF JURISDICTION], and shall be cited as such and will be referred to herein as “this code.”

R103.1 Creation of agency

The [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the *building official*. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

R106.1.1 Information on construction documents.

Construction documents shall be drawn upon suitable material. Electronic media documents are permitted to be submitted where *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

R114.1 Authority.

Where the *building official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the *building official* is authorized to issue a stop work order.

R301.2 Climatic and geographic design criteria

Buildings shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Additional criteria shall be established by the local *jurisdiction* and set forth in Table R301.2.

TABLE R301.2CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD ^o	WIND DESIGN				SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g
	Speed ^d (mph)	Topographic effects ^k	Special wind region ^l	Windborne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c		
—	—	—	—	—	—	—	—	—	—	—
MANUAL J DESIGN CRITERIA ⁿ										
Elevation			Altitude correction factor ^e	Coincident wet bulb	Indoor winter design relative humidity	Indoor winter design dry-bulb temperature			Outdoor winter design dry-bulb temperature	
—			—	—	—	—			—	
Latitude			Daily range	Summer design gains	Indoor summer design relative humidity	Indoor summer design dry-bulb temperature			Outdoor summer design dry-bult temperature	
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R403.1.1 Minimum size.

The minimum width, W, and thickness, T, for concrete footings shall be in accordance with Tables R403.1(1) through R403.1(3) and Figure R403.1(1) or R403.1.3, as applicable, but not less than 12 inches (305 mm) in width and 6 inches (152 mm) in depth. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1(1). Footing projections, P, shall be not less than 2 inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1(1). Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundations shall be in accordance with the details set forth in Section R403.4, Table R403.4, and Figures R403.4(1) and R403.4(2). Crushed stone footings for cast-in-place concrete foundations shall be in accordance with Section R403.5.

R403.1.3.5.1 Steel reinforcement.

Steel reinforcement shall comply with the requirements of ASTM A615, A706M or A996M. ASTM A996M bars produced from rail steel shall be Type R. The minimum yield strength of reinforcing steel shall be 40,000 psi (Grade 40) (276 MPa).

R507.3.1 Minimum size.

The minimum size of [deck](#) footings shall be in accordance with Table R507.3.1, based on the tributary area and allowable soil-bearing pressure in accordance with Table R401.4.1(1).

2024 BUILDING CODE

101.1: Title.

These regulations shall be known as the *Building Code* of **[NAME OF JURISDICTION]**, hereinafter referred to as "this code."

102.6: Existing structures.

The legal occupancy of any *structure* existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the International Existing Building Code, the International Property Maintenance Code or the International Fire Code.

103.2: Appointment.

The *building official* shall be appointed by the chief appointing authority of the *jurisdiction*.

103.3: Deputies.

In accordance with the prescribed procedures of this *jurisdiction* and with the concurrence of the appointing authority, the *building official* shall have the authority to appoint a deputy building official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the *building official*.

707.2: Materials.

fire barriers shall be of materials permitted by the *building* type of construction.

713.2: Construction.

Shaft enclosures shall be constructed as *fire barriers* in accordance with Section 707 or *Horizontal assemblies* in accordance with Section 711, or both.

[2308.9.8: Pipes in walls.](#)

Stud partitions containing plumbing, heating or other pipes shall be framed and the joists underneath spaced to provide proper clearance for the piping. Where a partition containing piping runs parallel to the floor joists, the joists underneath such partitions shall be doubled and spaced to permit the passage of pipes and shall be bridged. Where plumbing, heating or other pipes are placed in, or partly in, a partition, necessitating the cutting of the soles or plates, a metal tie not less than 0.058 inch (1.47 mm) (16 galvanized gage) and 1 1/2 inches (38 mm) in width shall be fastened to each plate across and to each side of the opening with not less than six 16d nails.