

## **Significant Changes in the 2018 Virginia Residential Code**

### **Adopted in Virginia on July 1, 2021 and becomes fully effective on July 1, 2022**

**R302.2.2:** Water filled sprinkler piping is now permitted to penetrate the common wall between townhome units.

**R3002.4.2:** Listed luminaires or luminaires protected with listed materials that have been tested are permitted to penetrate fire-resistance rated ceiling membranes.

**R302.7:** Half inch gypsum board is now required on the walls and bottom side of stringers under stairways that are enclosed and are accessed by a door or access panel.

**R308.4.2:** Where glazing is on a wall less than 180 degrees from the plane of the door in a closed position and within 24" of the hinge side of an in-swinging door it is required to be tempered.

**R311.7.3:** The maximum vertical rise for a flight of stairs has increased to 151".

**R311.7.5.3:** Treads, landings and floors of stairways shall have a radius of curvature at the nosing not greater than 9/16" or a bevel not greater than 1/2".

**R311.7.8.2:** The projection of handrails into a stairway has increased to 6-1/2" where nosings of landings, floors or passing flights project into the stairway reducing the clearance at passing handrails. The clear width of stairways at and below the handrail height are still required to be not less than 31-1/2" where a handrail is installed on one side and 27" where handrails are installed on both sides.

**R311.7.12:** Ship's ladders are allowed to be used as an element of a means of egress for lofts, mezzanines and similar areas of 200 gross square feet or less that do not provide exclusive access to a kitchen or bathroom.

**R314.6:** Smoke alarms shall be permitted to be battery operated with a minimum 10-year battery where installed in buildings without commercial power.

**R314.7:** A fire alarm system shall be installed within a two-family dwelling that is constructed without fire separations in accordance with Exception 3 of Section R302.3 and shall be installed in such a manner that the actuation of an alarm will activate all notification appliances within both dwelling units

**R315.5:** Carbon monoxide alarms are now required to be interconnected.

**R324.6.1:** Must have at least 2 pathways that are a minimum of 36" on roofs with photovoltaic arrays.

**R324.6.2:** Must provide 18" clearance from ridge to photovoltaic arrays if arrays make up more than 33% of the plain view roof area.

**R333:** Appendix Q may be used as an alternative to the requirements of the code where a dwelling is 400 square feet or less in floor area.

**R403.1.6:** Anchor bolts must be located a minimum of 1.75" from the edge of the sill plate.

**R408.2:** In crawlspaces where the ground surface is covered with an approved Class I vapor retarder material, ventilation openings are not required to be within 3 feet of each external corner of the under-floor space, provided that the openings are placed to provide cross ventilation of the space.

**R408.3:** For unvented under-floor spaces, dehumidification sized to provide 70 pints of moisture removal per day for every 1,000 square feet of crawl space floor area is permitted.

**Table R507.3.1:** A table added for minimum footing size for decks based on the tributary area and allowable soil-bearing pressure.

**Table R602.3(6):** A prescriptive requirement is added for studs greater than 10; in height which applies to 11' and 12' tall walls in one- and two-story buildings.

**R609.4.1:** A label that identifies the garage door manufacturer, the garage door model/series number, the positive and negative design wind pressure rating, the installation instruction drawing reference number, and the applicable test standard must be affixed to the garage door by the manufacturer.

**R703.2:** Detached accessory buildings are now required to have a water-resistive barrier over studs or sheathing of all exterior walls. Water-resistive barriers must be installed in accordance with the manufacturer's installation instructions.

**R703.8.4:** Brick ties are now allowed to be fastened through a maximum of 2" thick insulated sheathing into not less than 7/16" thick wood structural panels.

**R1005.8:** An insulation shield that is a minimum of 26 gage is required where a factory-build chimney passes through an insulated assembly and must extend a minimum of 2" above the insulation materials.

**N1101.14:** A certificate that indicates the predominant R-values of insulation installed in or on ceilings, roofs, walls, or foundation components, such as slabs, basement walls, crawl space walls, and floors and ducts outside conditioned spaces must be posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building.

**N1102.1.2:** Ceiling insulation R-value has increase from R-38 to R-49. Sloped ceilings are still permitted to have R-30 where the ceiling is limited to 500 square feet or 20 percent of the total insulated ceiling area, whichever is less.

**N1102.4.1.2:** The visual inspection options is no longer permitted in order to verify building envelope tightness. Buildings must be tested and a written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

**N1104.1:** Percentage of lamps required to be high efficacy increased from 75% to 90%.

**M1502.4.2:** Dryer exhaust ducts shall be supported at 4' intervals and shall be secured in place. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

**M2101.9:** PEX tubing 1-1/4" and larger has a max horizontal spacing of 4' and a vertical spacing of 10'

**M2101.10 & P2503.7:** Compressed air testing of PEX hydronic piping and water-supply piping is now allowed when testing is in accordance with the manufacturer's instructions.

**G2406.2:** A gas-fired clothes dryer is now permitted to be installed in a residential bathroom or toilet room having a permanent opening with an area of not less than 100 square inches that communicates with a space outside of a sleeping room, bathroom, toilet room or storage closet.

**G2414.4.2:** Steel, stainless steel and wrought-iron gas piping material shall not be lighter than Schedule 10.

**G2420.6:** Gas shutoff valves installed in tubing systems shall be rigidly and securely supported independently of the tubing.

**G2447.2:** Commercial cooking appliances where the installation is designed by a licensed Professional Engineer, in compliance with the manufacturer's installation instructions are allowed in dwelling units.

**P2902.6:** Access for inspection, testing, service, repair and replacement shall be provided to backflow prevention assemblies. Backflow prevention assemblies shall be installed between 12" and 60" from grade, floor level or service platform and/or as specified by the manufacturer's instructions.

**P3003.2:** One joint between ABS piping and PVC piping may be solvent cemented with the proper cement (ASTM D3138).

**P3012:** A section has been added to address the relining of building sewers and building drains.

**P3103.1.3:** Vent pipes are permitted to terminate not less than 2" where the roof is covered by either a roof-mounted panel or a roof element.

**P3111:** Food waste disposers are now permitted to connect to a combination waste and vent system.

**P3114.8:** Air admittance valves shall not be installed on outdoor vent terminals for the sole purpose of reducing clearances to gravity or mechanical air intakes.

**E3603.3.3:** Where fuses are used as the service overcurrent device, the disconnecting means shall be located on the supply side of the fuses.

**E3604.6:** For a grounded system, where service conductors pass over a roof and supported by a metal substantial structure, it shall be bonded by means of a bonding jumper and listed connector to the grounded overhead service conductor.

**E3605.5:** Reinforced thermosetting resin conduit is now permitted to be used to protect above-ground service-entrance cables.

**E3611.5:** In a rebar-type concrete-encased electrode, the point of connection to the rebar extension shall be in an accessible location that is not subject to corrosion of the rebar.

**E3703.5:** Not less than one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets in attached garages and in detached garages with electric power. This circuit shall not have other outlets.

**E3901.4.3:** The receptacle located on the wall located at a peninsular may now be considered the peninsular receptacle.

**E3901.4.5:** Receptacle outlet assemblies installed in countertops and work surfaces shall be listed for use in countertops or work surfaces.

**E3901.9:** Each vehicle bay in an attached garage must be provided with at least one receptacle not more than 6'6" above the floor. This also applies to detached garages that are provide with electric power.

**E3902.4:** In crawlspaces, lighting outlets not exceeding 120 volts shall have ground-fault circuit-interrupter protection.

**E3902.16:** Arc-fault circuit-interrupter (AFCI) protection must be provided on all 120-volt, single phase, 15-ampere and 20-ampere outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas and similar rooms or areas. The exception to this is if the circuit is required to be GFCI protection, it doesn't have to be AFCI protected.

**E4003.4:** Lampholders of the screw-shell type shall be installed for use as lampholders only. Where supplied by a circuit having a grounded conductor, the grounded conductor shall be connected to the screw shell.

**E4205.9:** For swimming pools, the grounding and bonding terminals shall be identified for use in wet and corrosive environments. Field-installed grounding and bonding connections in a damp, wet or corrosive environment shall be composed of copper, copper alloy or stainless steel and shall be listed for direct burial use.