Rockingham County
2018 Virginia Residential Code Significant Changes

R311.7.11, R311.7.12 Alternating Tread Devices and Ships Ladders

Alternating tread devices and ships ladders are now permitted as a means of egress for lofts that do not exceed 200 square feet.

- An exception has been added to allow an alternating tread device or ship's ladder to be used for Egress for lofts that do not exceed 200 sqft and where such devices do not provide exclusive access to a kitchen or bathroom.

R312.1 Guards

The guard requirements only apply to the specific portion of a walking surface that exceeds 30 inches above grade

R314.6 Smoke Alarm Power Source

- Exception now requires a minimum 10-year battery where installed in buildings without commercial power.
- Smoke alarms shall be permitted to be battery operated with a minimum 10-year battery where installed in buildings without commercial power

R315 Carbon Monoxide Alarm Connectivity

- If multiple CO alarms are installed in a dwelling unit, they must be interconnected such that one alarm must activate all alarms in both dwelling units
- Physical interconnection is not required where listed wireless alarms are installed and all alarms sound upon activation of one alarm

R324.6 Roof Access for Photovoltaic Solar Energy Systems

Requirements for roof access and pathways for firefighters have been added.

- The roof access and pathway provisions for firefighters first appeared in the 2012 edition of the International Fire Code (IFC). The new 2018 IRC provisions mirror the latest edition of the IFC, except only those provisions that apply to one- and two-family dwellings and townhouses appear in the IRC.
- The minimum number of pathways is:
    - Two per building on separate parts of the roof
    - One on the street or driveway side of the dwelling
    - One on each roof plane with a PV array (or adjacent roof plane).

R324.6.2.2 Solar Panels near Emergency Escape and Rescue Openings

Rooftop-mounted photovoltaic solar energy panels and modules are not permitted to be installed directly below emergency escape and rescue openings (EERO).

A minimum 36-inch-wide pathway is required for EERO openings above roof-mounted PV solar panels.

R507.3 Deck Footings

An entirely new section on footing minimum size is added to help describe minimum prescriptive (non-engineered) required for an exterior deck footing based on snow load, soil quality, and footing shape and size.

R609.4.1 Garage Door Labeling

A new VA addition requires garage doors to have permanent labels from manufacturers with design criteria, who manufactured, model/serial, positive and negative wind pressure rating. Test standards should be included. Also, the installation instruction drawing reference number.

R703.2 Water Resistive Barrier

Water-resistive barriers must be installed per manufacturer's installation guide and are now required for detached accessory structure.

R703.8.4 Veneer Anchorage through Insulation

Allows brick ties to be fastened through insulated sheathing into wood structural panels (WSP). R1005.8

Chimney Insulation Shield

Factory-built chimneys, which have been required to maintain a minimum clearance to insulation, are now required to have an insulation shield to provide clearance.

- Key requirements of this new section include:
    - 26 ga
    - Clearance per installation instructions
    - Terminate at least 2" above insulation
    - Be secured in place

M1502.4.2 (also VMC 504.8.2, VFGC 614.8.2) Concealed Dryer Exhaust Ducts

Wall and ceiling cavities enclosing dryer exhaust ducts must provide sufficient space that eh 4-inch duct is not squeezed out of its round shape. (VA continues to modify this section to not allow fastener penetrations into duct)

M1601.1.2 Underground Duct System

Underground duct, including both direct-burial ducts and those encased in concrete, require sealing and testing.

G2406.2/VFGC303.3 Gas-fired Clothes Dryers in Bathrooms

New exception allows a gas-fired clothes dryer in a toilet room or bathroom, with a permanent vent opening.

G2420.5.1/ VFGC409.5.1 Access to Shutoff Valves for Movable Appliances

Clarifies that shutoff valve behind movable appliances meet the code intent for access.

G2420.6/ VFGC409.7 Support for Shutoff Valves in Tubing Systems

Shutoff valves in gas tubing systems require rigid support separate from the tubing to prevent damage at the valve connection.

P2503.7 Air Testing of PEX Piping

Compressed-air testing of PEX water-supply piping is now allowed when testing is in accordance with the manufacturer's instructions.

P3003.2/ VPC705.16.4 PVC to ABS Solvent Cement Joint

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

P3103.1 Vent Pipe Terminations

The provisions for vent terminals have been reorganized. A new option has been added to allow a 2-inch vent extension through a sloped roof when the vent is covered.

P3114.8/ VPC918.8 Prohibited Installations (Air Admittance Valves)

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

R401.2/n1101.13 Compliance

Permanent certificate listing the predominant R-value, the Ufactors and SHGC to be posted.

Table R402.1.2 Insulation and Fenestration Requirements by Component

Fenestration U-factor has been updated to 0.32

Ceiling insulation values increased from R-38 to R-49, meeting the 2018 IECC.

R402.1.2/N1102.4.1.2; R402.4.1.3/N1102.4.1.3 Testing

The Visual inspection of thermal envelope tightness is no longer and option in lieu of blower door testing.

R402.2.2/N4402.2.2 Reduction of Ceiling Insulation

Insulation must extend over the top plate in certain ceilings without attic spaces.

R403.3.6/N1103.3.6; R403.3.7/N1103.3.7 Duct Buried with Ceiling Insulation

New section provides requirements for ducts buried within ceiling insulation; additional section for deeply buried ducts when using the simulated performance compliance method.

R403.1/N1104.1 Lighting

Percentage of lamps required to be high efficacy increased from 75% to 90%

Electrical

110- Reconditioned Equipment

The changes to this code section recognizes that equipment can be new, reconditioned, refurbished, or remanufactured but places marking and labeling requirements on reconditioned equipment.

110.14(D) Electrical Connection Torque Tools

Calibrated torque measuring tools are now required where numeric torque values are indicated on equipment or manufacturer's installation instructions.

210.8 Measurements for GFCI Protection

- 210.8 New language clarifies the measurement requirement
    - "Shortest path" without piercing a floor, wall, ceiling, or fixed barrier, or passing through a door, doorway, or window
- 210.8 (7) Sinks
    - Clarification for specifies "…from the top inside edge"

210.5 (E) GFCI Protection; Crawl Space Lighting Outlets

All crawl space lighting outlets, residential and commercial, require GFCI protection

- The new (E) applies to all crawl spaces, residential and Commercial Buildings

210.11 (C)(4) – Garage Branch Circuits

A new code section was added to require a 20-amp circuit for a dwelling unit garage. This new requirement applies to attached garages or detached garages with electrical power. This circuit is prohibited from feeding other outlets except a readily accessible exterior outlet GFCI protected.

VRC E3902 – Arc Fault Protection

This change expands the requirements for AFCI Throughout the dwelling unit.

- AFCI Required for kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, and similar rooms or areas
- New Exception- Not required where GFCI protection is required in accordance with E3902 and NEC 210.8 (A)

210.52(B)(1) – Exception 2 _ Refrigerator Appliance Branch Circuit

Any dwelling unit kitchen appliance is now permitted (by the exception) to be supplied be and individual branch circuit rated 15 amperes or greater

210.52(C)(3) Peninsular Countertop Spaces (E3901.4.3)

The Measurement point for peninsular countertops has been changed from the “connecting edge” to the “connected perpendicular wall”

210.52(G)(1) – Dwelling Unit Garage Receptacles

At least one receptacle outlet is required to be installed “in each vehicle bay and not more then 5 ½ ft above the floor.”

210.64 Receptacle a (Indoor) Electrical Service Areas

At lease one receptacle outlet shall be installed in an accessible location within 25-feet of the indoor electrical service equipment and located within the same room or area.

210.70 (A)(2)(4), VRC E3903.3.1 Additional Locations – Dimmer Switched at Stairways

Additional code language clarifies the use of dimmer switches at interior stairways.

- The use of dimmer switches in these locations is not allowed, but only if they provide the full range of dimming control at each location.
- Applies to all occupancy types.

210.70 (C) Lighting Outlet(s) All Occupancies

This change now applies to all occupancies, for basements, attics, crawlspaces, utility rooms, equipment spaces and storage spaces. The switch shall be located at point of entry and lighting located at the equipment requiring servicing.

- Changed from “Other Than Dwelling Units” to “All Occupancies”
  (C) All occupancies. For attics and underfloor spaces, utility rooms, and basements, at least one lighting outlet containing a switch or controlled by a wall switch shall be installed where these spaces are used for storage or contain equipment requiring servicing. At lease one point of control shall be at the usual point of entry to these spaces. The lighting outlet shall be provided at or near the equipment requiring servicing.

250.52(B)(3) Swimming Pools Not Permitted for Use as a Grounding Electrode

The structures and structural reinforcing steel of and in-ground swimming pool as described in 680.26(B)(1) and (B)(2) are now prohibited from being used as a grounding electrode

314.27(E) Separable Attachment Fittings

Outlet boxes are now permitted to support listed locking support and mounting receptacles used in combination with compatible attachment fittings for supporting a luminaire, lamp holder, or ceiling suspended (paddle) fan

404.2(C) & VRC E4001.15 Grounded Conductor at Switch Locations

Revisions were made to the Requirement to Provide a grounded neutral conductor at specific switch locations.

404.22 Electronic Lighting Control Switches (related to above/previous change)

This new requirement aligns with and provides supporting language for the new changes in 404.2(C) which addresses electronic lighting control devices that require a neutral return path in order for the circuitry in the switch to function

408.3(A)(2) Barriers at Service Panelboards

New Requirements added for barriers to be placed in all service panelboards. This has been identified as a safety concern by installers and proponents of electrical safety in the workplace.

422.16(B)(2) Built-in Dishwashers and Trash Compactors

This change addresses the location of the receptacles and the permitted length of the flexible cords.

- Dishwasher:
    - Outlet in adjacent space only, cord length 3-6.5 ft.
- Trash Compactor:
    - Same or adjacent space, cord length 3-4 ft.

555 Marinas, Boatyards, and commercial/Noncommercial Docking Facilities

Adopted from 2020 NEC. Now applies to all dwelling unit docking facilities.

- Virginia adopts the 2020 edition of the N.E.C. for Article 555 only. This change is intended to increase the level of safety around Docks and Marinas and improved requirements for GFCI protection, GFPE Protection and Bonding requirements for public safety
- This includes a Change to Scope to include docking facilities associated with One Family, Two Family dwellings, multifamily and residential condominiums
- Article 555 was completely re-written with an expanded requirement on where exactly and what type of ground fault protection shall be used. Also, a leakage current measurement requirement was added.
    - Shore Power Receptacles- not exceeding 30mA GFPE
    - Receptacles for other than shore power- GFCI for 125 V, single phase, 15 & 20
    - Feeder & Branch- Circuit conductors- not exceeding 100 mA GFPE
    - Where more than 3 receptacles provide for shore power to boats, a leakage current measurement device shall be available.

555.10(2020) Signage- Marinas, Boatyards, and Commercial/Noncommercial Docking Facilities

New requirement for precautionary signage clearly visible from all approaches

- New signage requirement for precautionary signage related to electric shock hazard in water around marinas and boatyards.
- Signage must comply with 110.21(B)(1) and be clearly visible from all approaches to a marina or boatyard facility. (By land OR sea)
- The signs shall state: WARNING- POTENTIAL SHOCK HAZARD- ELECTRICAL CURRENTS MAY BE PRESENT IN THE WATER