

2021 Virginia Construction Code

CHAPTER 1 ADMINISTRATION

SECTION 112 WORKMANSHIP, MATERIAL AND EQUIPMENT

112.1 General.

It shall be the duty of any person performing work covered by this code to comply with all applicable provisions of this code and to perform and complete such work so as to secure the results intended by the USBC. Damage to regulated building components caused by violations of this code or by the use of faulty materials or installations shall be considered as separate violations of this code and shall be subject to the applicable provisions of [Section 115](#).

112.2 Alternative methods or materials.

In accordance with § 36-99 of the Code of Virginia, where practical, the provisions of this code are stated in terms of required level of performance so as to facilitate the prompt acceptance of new *building* materials and methods. When generally recognized standards of performance are not available, this section and other applicable requirements of this code provide for acceptance of materials and methods whose performance is substantially equal in safety to those specified on the basis of reliable test and evaluation data presented by the proponent. In addition, as a requirement of this code, the building official shall require that sufficient technical data be submitted to substantiate the proposed use of any material, *equipment*, device, assembly or method of construction. The building official may consider nationally recognized guidelines in making a determination.

112.3 Documentation and approval.

In determining whether any material, *equipment*, device, assembly or method of construction complies with this code, the building official shall approve items listed by nationally recognized testing laboratories, when such items are listed for the intended use and application, and in addition, may consider the recommendations of RDPs. Approval shall be issued when the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code and that the material, *equipment*, device, assembly or method of construction offered is, for the purpose intended, at least the equivalent of that prescribed by the code. Such approval is subject to all applicable requirements of this code and the material, *equipment*, device, assembly or method of construction shall be installed in accordance with the conditions of the approval and their listings. In addition, the building official may revoke such approval whenever it is discovered that such approval was issued in error or on the basis of incorrect information, or where there are repeated violations of the USBC.

112.3.1 Conditions of listings.

Where conflicts between this code and conditions of the listing or the manufacturer's installation instructions occur, the provisions of this code shall apply.

Exception: Where a code provision is less restrictive than the conditions of the listing of the *equipment* or appliance or the manufacturer's installation instructions, the conditions of the listing and the manufacturer's installation instructions shall apply.

112.4 Used material and equipment.

Used materials, *equipment* and devices may be approved, provided they have been reconditioned, tested or examined and found to be in good and proper working condition and acceptable for use by the building official.

112.5 Defective materials.

Notwithstanding any provision of this code to the contrary, where action has been taken and completed by the Board of Housing and Community Development (BHCD) under subsection D of § 36-99 of the Code of Virginia establishing new performance standards for identified defective materials, this section sets forth the new performance standards addressing the prospective use of such materials and establishes remediation standards for the removal of any defective materials already installed, which when complied with enables the building official to certify that the *building* is deemed to comply with the edition of the USBC under which the *building* was originally constructed with respect to the remediation of the defective materials.

112.5.1 Drywall, performance standard.

All newly installed gypsum wallboard shall not be defective drywall as defined in [Section 112.5.1.1.1](#).

112.5.1.1 Remediation standards.

The following provisions establish remediation standards where defective drywall was installed in *buildings*.

112.5.1.1.1 Definition.

For the purposes of this section the term "defective drywall" means gypsum wallboard that (i) contains elemental sulfur exceeding 10 parts per million that when exposed to heat or humidity, or both, emits volatile sulfur compounds in quantities that cause observable corrosion on electrical wiring, plumbing pipes, fuel gas lines, or HVAC *equipment*, or any

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components of the foregoing or (ii) has been designated by the US Consumer Product Safety Commission as a product with a product defect that constitutes a substantial product hazard within the meaning of § 15(a)(2) of the Consumer Product Safety Act [15 USC § 2064(a)(2)].

112.5.1.1.2 Permit.

Application for a permit shall be made to the building official, and a permit shall be obtained prior to the commencement of remediation work undertaken to remove defective drywall from a *building* and for the removal, replacement, or repair of corroded electrical, plumbing, mechanical, or fuel gas *equipment* and components.

112.5.1.1.3 Protocol.

Where remediation of defective drywall is undertaken, the following standards shall be met. The building official shall be permitted to consider and approve modifications to these standards in accordance with [Section 106.3](#).

112.5.1.1.3.1 Drywall.

Drywall in the *building*, whether defective or nondefective, shall be removed and discarded, including fasteners that held any defective drywall to prevent small pieces of drywall from remaining under fasteners.

Exceptions:

1. Nondefective drywall not subject to the corrosive effects of any defective drywall shall be permitted to be left in place in buildings where the defective drywall is limited to a defined room or space or isolated from the rest of the *building* and the defective drywall can be positively identified. If the room or space containing the defective drywall also contains any nondefective drywall, the nondefective drywall in that room or space shall also be removed.
2. In multifamily *buildings* where defective drywall was not used in the firewalls between units and there are no affected *building* systems behind the firewalls, the firewalls shall be permitted to be left in place.

112.5.1.1.3.2 Insulation and other building components.

Insulation in *walls* and ceilings shall be removed and discarded. Carpet and vinyl flooring shall be removed and discarded. Wood-work, trim, cabinets, and tile or wood floors may be left in place or may be reused.

Exceptions:

1. Closed-cell foam insulation is permitted to be left in place if testing for off-gassing from defective drywall is negative, unless its removal is required to gain access.
2. Insulation, carpet, or vinyl flooring in areas not exposed to defective drywall or to the effects of defective drywall, may be left in place or reused.

112.5.1.1.3.3 Electrical wiring, equipment, devices, and components.

All electrical wiring regulated by this code shall be permitted to be left in place, but removal or cleaning of exposed ends of the wiring to reveal clean or uncorroded surfaces is required. All electrical *equipment*, devices, and components of the electrical system of the *building* regulated by this code shall be removed and discarded. This shall include all smoke detectors.

Exceptions:

1. Electrical *equipment*, devices, or components in areas not exposed to the corrosive effects of defective drywall shall be permitted to be left in place or reused. Electrical *equipment*, devices, or components in areas exposed to the corrosive effects of defective drywall shall be cleaned, repaired, or replaced.
2. Cord and plug connected appliances are not subject to this code and, therefore, cannot be required to be removed or replaced.

Note: All low-voltage wiring associated with security systems, door bells, elevator controls, and other such components shall be removed and replaced or repaired.

112.5.1.1.3.4 Plumbing and fuel gas piping, fittings, fixtures, and equipment.

All copper fuel gas piping and *allequipment* utilizing fuel gas with copper, silver, or aluminum components shall be removed and discarded. All copper plumbing pipes and fittings shall be removed and discarded. Plumbing fixtures with copper, silver, or aluminum components shall be removed and discarded.

Exception: Plumbing or fuel gas piping, fittings, fixtures, *equipment*, or components in areas not exposed to the corrosive effects of defective drywall shall be permitted to be left in place or reused.

112.5.1.1.3.5 Mechanical systems.

All heating, air-conditioning, and ventilation system components, including ductwork, air-handling units, furnaces, heat pumps, refrigerant lines, and thermostats and associated wiring, shall be removed and discarded.

Exception: Mechanical system components in areas not exposed to the corrosive effects of defective drywall shall be

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permitted to be left in place or reused.

112.5.1.1.3.6 Cleaning.

Following the removal of all materials and components in accordance with [Sections 112.5.1.1.3.1](#) through [112.5.1.1.3.5](#), the *building* shall be thoroughly cleaned to remove any particulate matter and dust.

112.5.1.1.3.7 Airing out.

Following cleaning in accordance with [Section 112.5.1.1.3.6](#), the *building* shall be thoroughly aired out with the use of open windows and doors and fans.

112.5.1.1.3.8 Pre-rebuilding clearance testing.

Following the steps outlined above for removal of all materials and components, cleaning and airing out, a pre-rebuilding clearance test shall be conducted with the use of copper or silver coupons and the methodology outlined in the April 2, 2010, joint report by the Consumer Products Safety Commission and the Department of Housing and Urban Development "Interim Remediation Guidance for Homes with Corrosion from Problem Drywall" or with the use of a copper probe and dosimeter. The clearance testing shall confirm that all airborne compounds associated with the defective drywall are at usual environmental background levels. The clearance testing report, certifying compliance, shall be submitted to the building official.

Notes:

1. Where the *building* is served by a well and prior to conducting clearance tests, all outlets in piping served by the well should be capped or otherwise plugged to prevent contamination of the air sample.
2. To prevent siphoning and evaporation of the trap seals, fixtures should be capped or otherwise plugged to prevent sewer gases from contaminating the air sample.

112.5.1.1.3.9 Testing agencies and personnel.

Agencies and personnel performing pre-rebuilding or post-rebuilding clearance testing shall be independent of those responsible for all other remediation work, and the agencies and personnel shall be appropriately certified or accredited by the Council of Engineering and Scientific Specialty Boards, the American Indoor Air Quality Council, or the World Safety Organization.

Exception: Testing agencies and personnel shall be accepted if certified by an *RDP* or if the agency employs an *RDP* to be in responsible charge of the work.

112.5.1.1.3.10 Rebuilding standards.

The rebuilding of the *building* shall comply with the edition of the USBC that was in effect when the *building* was originally built.

112.5.1.1.3.11 Post-rebuilding clearance testing.

A post-rebuilding clearance test prior to reoccupancy of the *building* or *structure* shall be conducted with the use of copper or silver coupons and the methodology outlined in the April 2, 2010, joint report by the US Consumer Products Safety Commission and by the Department of Housing and Urban Development "Interim Remediation Guidance for Homes with Corrosion from Problem Drywall" or with the use of a copper probe and dosimeter. The clearance testing shall confirm that all airborne compounds associated with the defective drywall are at usual environmental background levels. The clearance testing report certifying compliance shall be submitted to the building official.

Notes:

1. Where the *building* is served by a well and prior to conducting clearance tests, all outlets in piping served by the well should be capped or otherwise plugged to prevent contamination of the air sample.
2. To prevent siphoning and evaporation of the trap seals, fixtures should be capped or otherwise plugged to prevent sewer gases from contaminating the air sample.

112.5.1.1.4 Final approval by the building official.

Once remediation has been completed in accordance with this section, a certificate or letter of approval shall be issued by the building official. The certificate or letter shall state that the remediation and rebuilding is deemed to comply with this code.

112.5.1.1.4.1 Approval of remediation occurring prior to these standards.

The building official shall issue a certificate or letter of approval for remediation of defective drywall that occurred prior to the effective date of these standards, provided post-rebuilding clearance testing has been performed in accordance with [Section 112.5.1.1.3.11](#) by agencies and personnel complying with [Section 112.5.1.1.3.9](#), and the clearance testing confirms that all airborne compounds associated with the defective drywall are at usual environmental background levels. The clearance testing report certifying compliance shall be submitted to the building official.

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