




 <b>2019 CALGREEN RESIDENTIAL MANDATORY MEASURES</b> <b>EFFECTIVE JANUARY 1, 2020</b> <small>HCD SHL 615 (New 01/20)</small>	
See specific referenced sections for complete details on CALGreen mandatory requirements.	
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SECTION	REQUIREMENTS
<b>Construction waste management</b>	
<b>4.408.1</b>	<ul style="list-style-type: none"> <li>Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.</li> <li>Provide documentation to the enforcing agency per Section 4.408.5.</li> </ul>
	<b>Exceptions:</b> <ol style="list-style-type: none"> <li>Excavated soil and land-clearing debris.</li> <li>Alternative waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.</li> <li>The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.</li> </ol>
<b>Construction waste management plan</b>	
<b>4.408.2</b>	Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction.
<b>Waste management company</b>	
<b>4.408.3</b>	Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1.


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<b>Waste stream reduction alternative [LR]</b>	
<b>4.408.4 &amp; 4.408.4.1</b>	<ul style="list-style-type: none"> <li>Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.</li> <li>Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.</li> </ul>
<b>Operation and maintenance manual</b>	
<b>4.410.1</b>	At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building.
<b>Recycling by occupants</b>	
<b>4.410.2</b>	Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and is identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.
	<b>Exception:</b> Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.
<b>Division 4.5 – ENVIRONMENTAL QUALITY</b>	
<b>Fireplaces - General</b>	
<b>4.503.1</b>	Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves, and fireplaces shall also comply with all applicable local ordinances.


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<b>Protection of mechanical equipment during construction</b>	
<b>4.504.1</b>	At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.
<b>Adhesives, sealants and caulks</b>	
<b>4.504.2.1</b>	Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply: <ol style="list-style-type: none"> <li>Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall also comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2.</li> <li>Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations (CCR), Title 17, commencing with Section 94507.</li> </ol>
<b>Paints and coatings</b>	
<b>4.504.2.2</b>	Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

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<b>Aerosol paints and coatings</b>	
<b>4.504.2.3 &amp; 4.504.2.4</b>	<ul style="list-style-type: none"> <li>Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.</li> <li>Documentation is required per Section 4.504.2.4.</li> </ul>
<b>Carpet systems</b>	
<b>4.504.3</b>	Carpet installed in the building interior shall meet the testing and product requirements of 1 of the following: <ol style="list-style-type: none"> <li>Carpet and Rug Institute's Green Label Plus Program.</li> <li>California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).</li> <li>NSF/ANSI 140 at the Gold level.</li> <li>Scientific Certifications Systems Indoor Advantage™ Gold.</li> </ol>
<b>Carpet cushion</b>	
<b>4.504.3.1</b>	Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
<b>Carpet adhesive</b>	
<b>4.504.3.2</b>	Carpet adhesives shall meet the requirements of Table 4.504.1.

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<b>Resilient flooring systems</b>	
<b>4.504.4</b>	Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with 1 or more of the following: <ol style="list-style-type: none"> <li>Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.</li> <li>Products certified under UL GREENGUARD Gold (formerly the Greenguard Children &amp; Schools program).</li> <li>Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.</li> <li>Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).</li> </ol>
<b>Composite wood products</b>	
<b>4.504.5 &amp; 4.504.5.1</b>	<ul style="list-style-type: none"> <li>Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in the Air Resources Board's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), as shown in Table 4.504.5.</li> <li>Documentation is required per Section 4.504.5.1.</li> </ul>
	<ul style="list-style-type: none"> <li>Definition of Composite Wood Products: Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-joined lumber, all as specified in CCR, Title 17, Section 93120.1(a).</li> </ul>

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<b>Concrete slab foundations</b>	
<b>4.505.2</b>	Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section.
<b>Capillary break</b>	
<b>4.505.2.1</b>	A capillary break shall be installed in compliance with at least 1 of the following: <ol style="list-style-type: none"> <li>A 4-inch thick base of ½ inch or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.</li> <li>Other equivalent methods approved by the enforcing agency.</li> <li>A slab design specified by a licensed design professional.</li> </ol>
<b>Moisture content of building materials</b>	
<b>4.505.3</b>	Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture content shall be verified in compliance with the following: <ol style="list-style-type: none"> <li>Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8.</li> <li>Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified.</li> <li>At least 3 random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.</li> </ol>
	Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure.

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<b>Bathroom exhaust fans</b>	
<b>4.506.1</b>	Each bathroom shall be mechanically ventilated and shall comply with the following: <ol style="list-style-type: none"> <li>Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.</li> <li>Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> <li>Humidity controls shall be capable of manual or automatic adjustment between a relative humidity range of ≤ 50% to a maximum of 80%.</li> <li>A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in.</li> </ol> </li> </ol> <p><b>Note:</b> For CALGreen, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. Fans or mechanical ventilation is required in each bathroom.</p>
<b>Heating and air-conditioning system design</b>	
<b>4.507.2</b>	Heating and air-conditioning systems shall be sized, designed and equipment selected using the following methods: <ol style="list-style-type: none"> <li>The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J – 2016 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.</li> <li>Duct systems are sized according to ANSI/ACCA 1 Manual D – 2016 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.</li> <li>Select heating and cooling equipment according to ANSI/ACCA 3 Manual S – 2014 (Residential Equipment Selection) or other equivalent design software or methods.</li> </ol> <p><b>Exception:</b> Use of alternate design temperatures necessary to ensure the systems function are acceptable.</p>

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<b>CHAPTER 7 – INSTALLER &amp; SPECIAL INSPECTOR QUALIFICATIONS</b>	
<b>Installer training</b>	
<b>702.1</b>	HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include, but are not limited to, the following: <ol style="list-style-type: none"> <li>State certified apprenticeship programs.</li> <li>Public utility training programs.</li> <li>Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.</li> <li>Programs sponsored by manufacturing organizations.</li> <li>Other programs acceptable to the enforcing agency.</li> </ol>
<b>Special inspection</b>	
<b>702.2</b>	When required by the enforcing agency, special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.
<b>Documentation</b>	
<b>703.1</b>	Documentation of compliance shall include, but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the local enforcing agency. Other specific documentation or special inspections necessary to verify compliance are specified in appropriate sections of CALGreen.