

## VIAICC 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE

CALIFORNIA COUNCIL RESIDENTIAL MANDATORY MEASURES. SHEET 1 INCLUDING JANUARY 1. 2017 ERRATA)

CHAPTER 3 **SIGNOFF GREEN BUILDING SECTION 301 GENERAL 301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code. but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. **301.1.1 Additions and alterations. [HCD]** The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration. Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates. 301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used. **SECTION 302 MIXED OCCUPANCY BUILDINGS 302.1 MIXED OCCUPANCY BUILDINGS.** In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy. **ABBREVIATION DEFINITIONS:** Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development Low Rise High Rise Additions and Alterations I CHAPTER 4 RESIDENTIAL MANDATORY MEASURES DIVISION 4.1 PLANNING AND DESIGN **SECTION 4.102 DEFINITIONS** 4.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference) FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water. WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls. 4.106 SITE DEVELOPMENT **4.106.1 GENERAL.** Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section. 4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, snall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site. 1. Retention basins of sufficient size shall be utilized to retain storm water on the site. 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency. 3. Compliance with a lawfully enacted storm water management ordinance. **4.106.3 GRADING AND PAVING.** Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following: 2. Water collection and disposal systems French drains Water retention gardens 5. Other water measures which keep surface water away from buildings and aid in groundwater **Exception**: Additions and alterations not altering the drainage path. 4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 and 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. **Exceptions:** On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions: 1. Where there is no commercial power supply. 2. Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or developer by more than \$400.00 per unit. 4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. **4.106.4.1.1 Identification.** The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE". **4.106.4.2 New multifamily dwellings.** Where 17 or more multifamily dwelling units are constructed on a building site, 3 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging stations (EV spaces) capable of supporting future EVSE. Calculations for the number of EV spaces shall be rounded up to the nearest whole number. Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use. 4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. At least one EV space shall be located in common use areas and available for use by all residents.

When EV chargers are installed, EV spaces required by Section 4.106.2.2, Item 3, shall comply with at

1. The EV space shall be located adjacent to an accessible parking space meeting the

requirements of the California Building Code, Chapter 11A, to allow use of the EV charger

2. The EV space shall be located on an accessible route, as defined in the California Building

least one of the following options:

from the accessible parking space.

Code, Chapter 2, to the building.

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	4.106.4.2.2 Electr	ic vehicle charging space (	<b>EV space) dimensions.</b> The EV	space shall be	
	designed to compl	y with the following:	ce shall be 18 feet (5486 mm).	opuso silali so	
	<ol> <li>The min</li> <li>One in e</li> <li>wide min</li> </ol>	imum width of each EV space every 25 EV spaces, but not le	e shall be 9 feet (2743 mm). ess than one EV space, shall hav nm) wide minimum aisle shall be		
		urface slope for this EV space orizontal (2.083 percent slope	e and the aisle sha <b>ll</b> not exceed 1 e) in any direction.	unit vertical in 48 units	
	volt dedicated brandiameter). The race cabinet, box or end documents shall id capacity to install a	nch circuit. The raceway shall eway shall originate at the ma closure in close proximity to the entify the raceway terminatio	a listed raceway capable of according to the less than trade size 1 (no ain service or subpanel and shall the proposed location of the EV spin point. The service panel and/or ated branch circuit and space(s) rective device.	minal 1-inch inside terminate into a listed paces. Construction subpanel shall provide	
	termination point a shall also provide i electrical load calc ncluding any on-si at all required EV s 40-ampere minimu	nd proposed location of future information on amperage of full ulations to verify that the elected distribution transformer(s), spaces at the full rated amperent branch circuit. Raceways assed, inaccessible or in concessible or in concessible or in concessions.	nstruction documents shall indicate EV spaces and EV chargers. Cuture EVSE, raceway method(s), ctrical panel service capacity and have sufficient capacity to simult rage of the EVSE. Plan design shand related components that are ealed areas and spaces shall be in	onstruction documents wiring schematics and electrical system, aneously charge all EVs all be based upon a planned to be installed	
		pace(s) reserved for future E	or subpanel circuit directory shall V charging purposes as "EV CAF		
	Notes:	ne California Department of T	ransportation adopts and publish	es the "Californa Manual	
	oı aı V	n Uniform Traffic Control Devi nd specifications for all officia ehicle Signs and Pavement N	ices (California MUTCD)" to provi I traffic control devices in Californ Markings can be found in the New dot.ca.gov/trafficops/policy/13-01	de uniform standards ia. Zero Emission Policies & Directives	
		ee Vehicle Code Section 225 cilities and for use of EV char	11 for EV charging space signagerging spaces.	e in off-street parking	
	V ge				
DIVISIO	N 4.2 EN	IERGY EFFICIEN	NCY		
	PE. For the purpo	ses of mandatory energy effice adopt mandatory standards.	ciency standards in this code, the	California Energy	
		•	· CY AND CONSER\	/ATION	
4.303 I 4.303.1 WAT	NDOOR WA	TER USE B PLUMBING FIXTURES AN	<b>D FITTINGS.</b> Plumbing fixtures (		
4.303.1	I.1 Water Closets		of all water closets shall not exce		
Specifi	cation for Tank-typ	e Toilets.	performance criteria of the U.S. E		
(	of two reduced flus	hes and one full flush.	pilets is defined as the composite	-	
The eff		e of all other urinals shall not	mounted urinals shall not exceed exceed 0.5 gallons per flush.	0.125 gailons per liusn.	
4	4.303.1.3.1 Single gallons per minute	e Showerhead. Showerhead	ls shall have a maximum flow rate Il be certified to the performance		
5	showerhead, the cast single valve shall	ombined flow rate of all the sh	e shower. When a shower is sen nowerheads and/or other shower ninute at 80 psi, or the shower sh ime.	outlets controlled by	
	<b>Note</b> : A har	d-held shower shall be consi	dered a showerhead.		
4 r	not exceed 1.2 gall		ne maximum flow rate of residenti e minimum flow rate of residentia i.		
ı f	1.303.1.4.2 Lavat aucets installed in	ory Faucets in Common and	d Public Use Areas. The maximas (outside of dwellings or sleepin		
	<b>1.303.1.4.3 Meter</b> nore than 0.25 gal		ets when installed in residential bu	uildings shall not deliver	
r t	er minute at 60 ps	si. Kitchen faucets may temp	low rate of kitchen faucets shall n orarily increase the flow above th must default to a maximum flow r	e maximum rate, but not	
	<b>Note</b> : Wher reduc		vailable, aerators or other means	may be used to achieve	
in acco		alifornia Plumbing Code, and	TTINGS. Plumbing fixtures and f shall meet the applicable standar		
	NOTE: THIS TA	BLE COMPILES THE DATA			
		JDED AS A CONVENIENCE E - MAXIMUM FIXTU		٦	
	FIXTUR	E TYPE	FLOW RATE		
	(RESID	ER HEADS ENTIAL) DRY FALICETS	2.0 GMP @ 80 PSI		
	(RESID	DRY FAUCETS ENTIAL) DRY FAUCETS IN	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI		
	СОММ	ON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI 1.8 GPM @ 60 PSI		
1		ING FAUCETS	0.25 GAL/CYCLE	-	

WATER CLOSET

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A 20A OUTDOOD WATER USE	
<ul> <li>4.304 OUTDOOR WATER USE</li> <li>4.304.1 IRRIGATION CONTROLLERS. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:</li> </ul>	
<ol> <li>Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.</li> </ol>	
2. Weather-based controllers without integral rain sensors or communication systems that account for local	
rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.	
<b>Note</b> : More information regarding irrigation controller function and specifications is available from the Irrigation Association.	
DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY	
4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE 4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.	
4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING 4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous 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.	
Exceptions:  1. Excavated soil and land-clearing debris.	
<ol><li>Alternate waste reduction methods developed by working with local 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></ol>	
<ol> <li>The enforcing agency may make exceptions to the requirements of this section when isolated jobsite are located in areas beyond the haul boundaries of the diversion facility.</li> </ol>	
<b>4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN</b> . Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as	
necessary and shall be available during construction for examination by the enforcing agency.  1. Identify the construction and demolition waste materials to be diverted from disposal by recycling,	
reuse on the project or salvage for future use or sale.  2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).	
<ol> <li>Identify diversion facilities where the construction and demolition waste material collected will be taken.</li> </ol>	
<ul><li>4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.</li><li>5. Specify that the amount of construction and demolition waste materials diverted shall be calculated</li></ul>	
by weight or volume, but not by both.  4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the	
enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.	
<b>Note:</b> The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.	
4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1	
<b>4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE.</b> Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 lbs./sq.ft. of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1	
<b>4.408.5 DOCUMENTATION</b> . Documentation shall be provided to the enforcing agency which demonstrates	
compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4  Notes:	
<ol> <li>Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in</li> </ol>	
documenting compliance with this section.  2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).	
4.410 BUILDING MAINTENANCE AND OPERATION	
4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building: 4. Diserting the transfer of the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:	
<ol> <li>Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.</li> <li>Operation and maintenance instructions for the following:</li> </ol>	
<ul> <li>a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.</li> <li>b. Roof and yard drainage, including gutters and downspouts.</li> </ul>	
c. Space conditioning systems, including condensers and air filters. d. Landscape irrigation systems. e. Water reuse systems.	
<ol> <li>Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.</li> <li>Public transportation and/or carpool options available in the area.</li> </ol>	
<ul> <li>5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.</li> <li>6. Information about water-conserving landscape and irrigation design and controllers which conserve</li> </ul>	
water.  7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.	
<ol><li>Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.</li></ol>	
<ol> <li>Information about state solar energy and incentive programs available.</li> <li>A copy of all special inspections verifications required by the enforcing agency or this [California Green Building Standards] code.</li> </ol>	
<b>4.410.2 RECYCLING BY OCCUPANTS.</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 non-hazaradous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.	
DIVISION 4.5 ENVIRONMENTAL QUALITY	
SECTION 4.501 GENERAL	
4.501.1 Scope The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.  SECTION 4.502 DEFINITIONS	
5.102.1 DEFINITIONS  The following terms are defined in Chapter 2 (and are included here for reference)	
<b>AGRIFIBER PRODUCTS.</b> Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.	
<b>COMPOSITE WOOD PRODUCTS.</b> Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 2210.1	
93120.1. <b>DIRECT-VENT APPLIANCE.</b> A fuel-burning appliance with a sealed combustion system that draws all air for	
combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.	

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O<sup>3</sup>/g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood. PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a). REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere. VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a). **4.503.1 GENERAL**. 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 indication they are certified to meet the emission limts. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances. 4.504 POLLUTANT CONTROL 4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING **CONSTRUCTION.** 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 distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system. 4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section. 4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant 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: 1. 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 also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below. 2. 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

**4.504.2.4 Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

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, Title 17,

**4.504.2.2 Paints and Coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB 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

4.504.2.3 Aerosol Paints and Coatings. 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

Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air

Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation

compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of

Manufacturer's product specification.

commencing with section 94507.

Table 4.504.3 shall apply.

2. Field verification of on-site product containers.

(Less Water and Less Exempt Compounds in Grams per Liter)					
ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT				
INDOOR CARPET ADHESIVES	50				
CARPET PAD ADHESIVES	50				
OUTDOOR CARPET ADHESIVES	150				
WOOD FLOORING ADHESIVES	100				
RUBBER FLOOR ADHESIVES	60				
SUBFLOOR ADHESIVES	50				
CERAMIC TILE ADHESIVES	65				
VCT & ASPHALT TILE ADHESIVES	50				
DRYWALL & PANEL ADHESIVES	50				
COVE BASE ADHESIVES	50				
MULTIPURPOSE CONSTRUCTION ADHESIVE	70				
STRUCTURAL GLAZING ADHESIVES	100				
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250				
OTHER ADHESIVES NOT LISTED	50				
SPECIALTY APPLICATIONS					
PVC WELDING	510				
CPVC WELDING	490				
ABS WELDING	325				
PLASTIC CEMENT WELDING	250				
ADHESIVE PRIMER FOR PLASTIC	550				
CONTACT ADHESIVE	80				
SPECIAL PURPOSE CONTACT ADHESIVE	250				
STRUCTURAL WOOD MEMBER ADHESIVE	140				
TOP & TRIM ADHESIVE	250				
SUBSTRATE SPECIFIC APPLICATIONS					
METAL TO METAL	30				
PLASTIC FOAMS	50				
POROUS MATERIAL (EXCEPT WOOD)	50				
WOOD	30				
FIBERGLASS	80				

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.

1.28 GAL/FLUSH

0.125 GAL/FLUSH



## AIAICC 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE

	INSPECTOR SIGNOFF	INSPECTOR SIGNOFF	INSPECTOR SIGNOFF
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TARLE 4 504 2 CEALANT VOC LIMIT	TABLE 4 504 5 FORMAL DELIVER LIMITS	CHAPTER 7	
TABLE 4.504.2 - SEALANT VOC LIMIT  (Less Water and Less Exempt Compounds in Grams per Liter)	TABLE 4.504.5 - FORMALDEHYDE LIMITS	INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS	
SEALANTS CURRENT VOC LIMIT	MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION  PRODUCT  CURRENT LIMIT	702 QUALIFICATIONS	
ARCHITECTURAL 250	HARDWOOD PLYWOOD VENEER CORE 0.05	702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including duets and equipment by a nationally or regionally recognized training or	
MARINE DECK 760	HARDWOOD PLYWOOD COMPOSITE CORE 0.05	installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems.	
NONMEMBRANE ROOF 300	PARTICLE BOARD 0.09	Examples of acceptable HVAC training and certification programs include but are not limited to the following:	
ROADWAY 250	MEDIUM DENSITY FIBERBOARD 0.11	State certified apprenticeship programs.	
SINGLE-PLY ROOF MEMBRANE 450	THIN MEDIUM DENSITY FIBERBOARD <sub>2</sub> 0.13	<ol> <li>Public utility training programs.</li> <li>Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.</li> </ol>	
OTHER 420	<ol> <li>VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL</li> </ol>	<ol> <li>Programs sponsored by manufacturing organizations.</li> <li>Other programs acceptable to the enforcing agency.</li> </ol>	
SEALANT PRIMERS  ARCHITECTURAL	MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF.	<b>702.2 SPECIAL INSPECTION [HCD].</b> When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or	
NON-POROUS 250	CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.	other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence	
POROUS 775	2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM	to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be	
MODIFIED BITUMINOUS 500	THICKNESS OF 5/16" (8 MM).	considered by the enforcing agency when evaluating the qualifications of a special inspector:	
MARINE DECK 760		<ol> <li>Certification by a national or regional green building program or standard publisher.</li> <li>Certification by a statewide energy consulting or verification organization, such as HERS raters, building</li> </ol>	
OTHER 750		performance contractors, and home energy auditors.  3. Successful completion of a third party apprentice training program in the appropriate trade.	
	DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)	4. Other programs acceptable to the enforcing agency.	
	4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:	Notes:  1. Special inspectors shall be independent entities with no financial interest in the materials or the	
	1. Carpet and Rug Institute's Green Label Plus Program.	project they are inspecting for compliance with this code.  2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate	
TABLE 4.504.3 - VOC CONTENT LIMITS FOR	<ol> <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,</li> </ol>	homes in California according to the Home Energy Rating System (HERS).	
ARCHITECTURAL COATINGS2,3	February 2010 (also known as Specification 01350).  3. NSF/ANSI 140 at the Gold level.	[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with	
GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS	4. Scientific Certifications Systems Indoor Advantage⊤м Gold.	this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a	
COATING CATEGORY CURRENT VOC LIMIT	4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.	recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.	
FLAT COATINGS 50	4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.	Note: Special inspectors shall be independent entities with no financial interest in the materials or the	
NON-FLAT COATINGS 100	4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area rec	project they are inspecting for compliance with this code.	
NONFLAT-HIGH GLOSS COATINGS 150	resilient flooring shall comply with one or more of the following:	703 VERIFICATIONS	
SPECIALTY COATINGS  ALLIMINUM POOF COATINGS	1. Products compliant with the California Department of Public Health, "Standard Method for the Testing Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chamb	and 703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not	
ALUMINUM ROOF COATINGS 400  BASEMENT SPECIALTY COATINGS 400	Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting M in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.	laterial methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific	
BITUMINOUS ROOF COATINGS 400  BITUMINOUS ROOF COATINGS 50	<ol> <li>Products certified under UL GREENGUARD Gold (formerly the Greenguard Children &amp; Schools progr</li> <li>Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.</li> </ol>	decomposition on an existing in an extension is a second to sent the second to the second in the sec	
BITUMINOUS ROOF PRIMERS 350	<ol> <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</li> </ol>	1.1	
BOND BREAKERS 350	February 2010 (also known as Specification 01350).	1.1,	
CONCRETE CURING COMPOUNDS 350	<b>4.504.5 COMPOSITE WOOD PRODUCTS.</b> Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for		
CONCRETE/MASONRY SEALERS 100	formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5		
DRIVEWAY SEALERS 50	4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested		
DRY FOG COATINGS 150  FAUX FINISHING COATINGS 350	by the enforcing agency. Documentation shall include at least one of the following:		
FIRE RESISTIVE COATINGS 350	<ol> <li>Product certifications and specifications.</li> <li>Chain of custody certifications.</li> </ol>		
FLOOR COATINGS 100	<ol><li>Product labeled and invoiced as meeting the Composite Wood Products regulation (see</li></ol>		
FORM-RELEASE COMPOUNDS 250	CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian C		
GRAPHIC ARTS COATINGS (SIGN PAINTS) 500	0121, CSA 0151, CSA 0153 and CSA 0325 standards.	SA	
HIGH TEMPERATURE COATINGS 420	5. Other methods acceptable to the enforcing agency.		
INDUSTRIAL MAINTENANCE COATINGS 250	4.505 INTERIOR MOISTURE CONTROL 4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.		
LOW SOLIDS COATINGS 120  MAGNESITE CEMENT COATINGS 450	4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by		
MASTIC TEXTURE COATINGS 100	California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.		
METALLIC PIGMENTED COATINGS 500	4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the		
MULTICOLOR COATINGS 250	following:		
PRETREATMENT WASH PRIMERS 420	1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provide a vapor barrier in direct contact with concrete and a concrete mix design, which will address ble	peding.	
PRIMERS, SEALERS, & UNDERCOATERS 100	shrinkage, and curling, shall be used. For additional information, see American Concrete Institu ACI 302.2R-06.	ute,	
REACTIVE PENETRATING SEALERS 350 RECYCLED COATINGS 250	<ol> <li>Other equivalent methods approved by the enforcing agency.</li> <li>A slab design specified by a licensed design professional.</li> </ol>		
RECYCLED COATINGS 250  ROOF COATINGS 50	4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water dam		
RUST PREVENTATIVE COATINGS 250	shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percer moisture content. Moisture content shall be verified in compliance with the following:		
SHELLACS	Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalence and shall provide the property of the provide the provided and th		
CLEAR 730	moisture verification methods may be approved by the enforcing agency and shall satisfy requirement found in Section 101.8 of this code.		
OPAQUE 550	2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamp of each piece verified.  3. At least three readings shall be perfermed an unit and floor framing with decurrents.		
SPECIALTY PRIMERS, SEALERS & 100 UNDERCOATERS	<ol> <li>At least three random moisture readings shall be performed on wall and floor framing with documenta acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor frame</li> </ol>		
STAINS 250	Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior	or to	
STONE CONSOLIDANTS 450	enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.		
SWIMMING POOL COATINGS 340	4.506 INDOOR AIR QUALITY AND EXHAUST		
TRAFFIC MARKING COATINGS 100  TUB & TILE REFINISH COATINGS 420	<b>4.506.1 Bathroom exhaust fans.</b> Each bathroom shall be mechanically ventilated and shall comply with the following:		
WATERPROOFING MEMBRANES 250	Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.  Indeed functioning as a component of a whole bourse ventilation system, for a must be controlled by a		
WOOD COATINGS 275	<ol> <li>Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.</li> </ol>		
WOOD PRESERVATIVES 350	a. Humidity controls shall be capable of adjustment between a relative humidity range less than or		
ZINC-RICH PRIMERS 340	equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic mean adjustment.	is of	
<ol> <li>GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER &amp; EXEMPT COMPOUNDS</li> </ol>	<ul> <li>b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)</li> </ul>		
2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS	Notes:		
ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.  3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY	1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or		
THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS	tub/shower combination.  2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.		
AVAILABLE FROM THE AIR RESOURCES BOARD.	4.507 ENVIRONMENTAL COMFORT		
	4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:		
	1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential		
	Load Calculation), ASHRAE handbooks or other equivalent design software or methods.  2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems),		
	ASHRAE handbooks or other equivalent design software or methods.  3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential		
	Equipment Selection), or other equivalent design software or methods.		

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