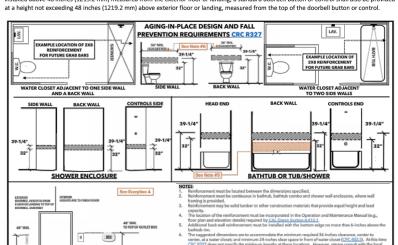
1. Covered multifamily dwellings designed and constructed in accordance with Chapter 11A of the California Building Code. 2. Public housing and places of public accommodation required to comply with Chapter 11B of the California Building Code. R327.1.1 Reinforcement for grab bars. At least one bathroom on the entry level shall be provided with reinforcement installed in accordance ith this section. Where there is no bathroom on the entry level, at least one bathroom on the second or third floor of the dwelling shall

R327.1.2 Electrical receptacle outlet, switch and control heights. Electrical receptacle outlets, switches and controls (including controls fo heating, ventilation and air conditioning) intended to be used by occupants shall be located no more than 48 inches (1219.7 mm) measurer from the top of the outlet box and not less than 15 inches (381 mm) measured from the bottom of the outlet box above the finish floor. R327.1.3 Interior doors. Effective July 1, 2024, at least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches (812.8 mm), measured with the door positioned at an angle of 90 degrees from the closed position; or in the case of a two- or three-story single family dwelling, on the second or third floor of the dwelling if a bathroom or bedroom is not located

R327.1.4 Doorbell buttons. Doorbell buttons or controls, when installed, shall not exceed 48 inches (1219.2 mm) above exterior floor or



BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES*

Storm Water Pollution Control Requirements for Construction Activities Minimum Water Quality Protection Requirements for All Development Construction Projects/Certification Statement

The following is intended as minimum notes or as an attachment for building and grading plans and represent the minimum standards of good housekeeping that must be implemented on all construction

- Every effort should be made to eliminate the discharge of non-stormwater from the project site at all times. • Eroded sediments and other pollutants must be retained on site and may not be transported from the site
- via sheetflow, swales, area drains, natural drainage courses or win-Stockpiles of earth and other construction related materials must be protected from being transported from
- Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be
- washed into the drainage system. · Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other
- . Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly esponsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the ESCP to reflect current conditions, or failing to properly and/or adequately implement the ESCP may result in revocation of grading and/or other permits or other sanctions provided by law.

Print Name ______(Owner or authorized agent of the owner)

(Owner or authorized agent of the owner)

*The above Best Management Practices are detailed in the latest edition of the California BMP Handbook or Caltrans Stormwater Quality Handbooks.

LOS ANGELES COUNTY/BUILDING &SAFETY DIVISION VERY HIGH FIRE HAZARD SEVERITY ZONE 2023 LA County Residential Code – Section R33 2023 LA County Building Code - Chapter 7A

Notes: 1) Additional State Fire Marshal approved materials and methods may be found in California Referenced approval, the property shall follow the vegetation nanagement requirements. 3) The use of paints, coating stains or other surface treatments are not an approve method of protection [R337,3,5,3/701A,5, 703A,5,3]. APPLICATION - [R337.1.3/701A]

 New buildings. Additions, alterations or repairs made to existing buildings within Wildland-Urban Interface (WU Fire Area or Fire Hazard Severity Zone

applicable building.

3. Detached Accessory Building Exceptions: Any structures located at least 50 ft from an ROOFING - [R337.5/705A]:

4. Roofs shall have a roofing assembly installed in

installation instructions. Wood shingles and wood shakes are prohibited in any Fire Hazard Severity Zone regardless of classification. 5. Roof covering shall be Class A [R902.1.1]:

accordance with its listing and the manufacturer's

a. The entire roof covering of every existing structure where more than 50% of the total root area is replaced within any one-year period b. The entire roof covering of every new

 And any roof covering applied in the alteration. existing structure.

structure, or

6. Where the roof profile allows space between the roof covering and roof decking: [R337.5.2] a. The spaces shall be constructed to prevent the intrusion of flames and embers,

Where roof valley flashing is installed [R337.5.3]:

b. Be fire stopped with approved materials, or Have one layer of minimum 72-pound mineralcorner projections or similar, and deck walking surfaces surfaced nonperforated cap sheet complying with ASTM D 3909 installed over the

> Exterior walls - R337.7.3/707A.3 11. Exterior wall covering or wall assembly shall be one of Noncombustible material,

The materials shall be corrosion resistant.

Ignition resistant material.

c. Heavy Timber Construction d. Log Wall Construction

e. Complies with ASTM E2707 and SFM Standard f. Exterior fire exposure with a 1-hour firetested in accordance with ASTM E119 or UL

g. Exterior fire exposure containing one layer of 5/8-inch (15.9 mm) Type X gypsum sheathing applied behind the exterior wall covering or cladding on the exterior side of the framing

d. One layer of 5/8-inch Type X gypsum sheathing

applied behind an exterior covering on the

e. Exterior portion of a 1-hour fire-resistance-rated

Exceptions: Fascia and architectural trim boards.

rafter tails, shall be protected by one of the following:

roof deck designed for fire exposure per Gypsur

Association Fire Resistance Design Manual an

tested in accordance with ASTM E119 or UL263

underside exterior of the roof deck.

General - Sec. R337.6.1/706A.1 h. Factory fire-retardant treated wood Where provided, ventilation openings enclosed attics, gable Extent of Exterior Wall Coverings -R337.7.3.1/707A.3.1 ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceiling 13. Exterior wall coverings shall extend from the top of

underfloor ventilation shall be in accordance with CBC Sec. the foundation to a. the roof and terminate at 2-inch nominal solid Requirements R337.6.2/706A.2 wood blocking between rafters at all roof 9. Ventilation openings shall be fully covered with Wildland Flame and Ember Resistant (WUI) vent

b. or in the enclosed eaves, terminate at the Marshal, or WUI vents listed to ASTM E2886 Open (Exposed) Roof Eaves - R337.7.5/707A.5 Off Ridge and Ridge Vents - R337.6.2.1/706A.2.1: 14. The exposed roof deck on the underside of 10. Vents that are installed on a sloped roof, such as unenclosed roof eaves shall consist of one of the

dormer vents, shall comply with all the following: a. Openings shall be between 1/16th and 1/8th inch. Noncombustible material. b. The materials shall be noncombustible except b. Ignition-resistant material.* vents located under the roof covering, along the c. Factory fire-retardant treated wood ridge, with noncombustible wire mesh.

EXTERIOR COVERING - Sec. R337.7/707A Note: The following exterior covering materials shall conform to this section: Exterior wall covering or underside of exterior porch ceilings, underside of floor projections, and underfloor areas. The following are exempt: architectural trim, fascia and gutters; roof or wall

The flashing shall be not less than 0.019-incl

mineral-surfaced non-perforated cap sheet

prevent the accumulation of leaves and debris in the

8. Roof gutters shall be provided with the means to

gutter. [R337.5.4]

<u>VENTS – [R337.6/706A]:</u>

1202 and R337.6.2.

omplying with ASTM D 3909, at least 30

inch-wide running the full length of the valley

No. 26 gage galvanized sheet installed over not

Enclosed Roof Eaves and Roof Eave Soffits -15. The exposed underside of enclosed roof eaves horizontal underside, or sloping rafter tails with an exterior covering applied to the underside of the

> Noncombustible material Noncombustible construction.

b. Ignition-resistant material* Factory fire-retardant treated wood

d. Materials approved for not less than 1-hour fire as tested by ASTM E119 or UL 263.

One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit.

when tested in accordance with ASTM E2957

h. Boxed-in roof eave soffits per SFM Standard

Exceptions: Fascia and other architectural trim

Exception: Architectural trim boards.

The exposed underside of a cantilevered floor

projection where a floor assembly extends over an

exterior wall shall be protected by one of the

Floor Projections - R337.7.8/707A.8

on the underside of the floor projection. e. The exterior portion of a 1-hour fire resistive The exterior portion of a 1-hour fire resistive terior wall assembly designed for exterior fire exterior wall assembly designed for exterior fire f. The underside of a floor assembly that meet g. Boxed-in roof eave soffits per Section 337 7 11

g. The underside of a floor assembly that meets SFM Standard 12-7A-3.

b. Ignition-resistant material.*

California Building Code.

d. One layer of 5/8-inch Type X gypsum

c. Factory fire-retardant-treated wood shall be

requirements of Section 2303.2 of the

beled for exterior use and shall meet the

neathing applied behind an exterior covering

Exception: Architectural trim boards. Underfloor Protection - R337.7.9/707A.9 18. The under-floor area of elevated or overhanging buildings shall be enclosed (and fire-protected) o grade or the underside of the exposed under

Exterior Porch Ceilings - R337.7.7/707A.7 16. The exposed underside of exterior porch ceiling floor shall be protected by one of the following: shall be protected by one of the following: a. Noncombustible construction. a. Noncombustible material b. Ignition-resistant material.* b. Ignition-resistant material.*

c. Factory fire-retardant-treated wood shall be c. Factory Fire-retardant-treated wood shall be labeled for exterior use and shall meet the labeled for exterior use and shall meet the requirements of Section 2303.2 of the California requirements of Section 2303.2 of the California Building Code.

Building Code. d. Materials approved for not less than 1-hour fire d. Materials approved for not less than 1-hour fire resistance-rated construction on the exterior side as tested in accordance with ASTM E119 or UL as tested by ASTM E119 or UL 263. e. One layer of 5/8-inch Type X gypsum sheathing

e. One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the applied behind an exterior covering on the underside of the ceiling. underside of the floor projection. f. The exterior portion of a 1-hour fire resistiv f. The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exterior wall assembly designed for exterior fire

 Porch ceiling assemblies with a horizontal g. The underside of a floor projection assembly that meets Section R337.7.11. when tested in accordance with ASTM h. The underside of a floor projection assembly that meets SFM Standard 12-7A-3. h. Porch ceiling assemblies with a horizontal underside that meets SFM Standard 12-7A-3. Exception: Heavy Timber Construction

> Underside of Appendages - R337.7.10/707A.10 19. The underside of overhanging appendages shall be enclosed to grade in accordance with the quirements similar to the exposed underfloor

 Noncombustible construction. b. Ignition-resistant material*

d. One layer of 5/8-inch Type X gypsum sheathing

. Factory fire-retardant-treated wood shall be

requirements of Section 2303.2 of the California

underside of the floor projection. . The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire

f. The underside of an appendage assembly that meets Section R337.7.1

g. The underside of an appendage assembly that Exception: Heavy Timber Construction EXTERIOR WINDOWS AND DOORS - R337.8/708A

Exterior Glazing - R337.8.2/708A.2 The following exterior glazing materials and/or assemblies glazed openings within exterior doors, glazed openings veneer, skylights, and vents.

Requirements - R337.8.2.1/708A.2.1 20. Exterior windows and exterior glazed door assemblies shall comply with one of the following: Multi-pane glazing with a minimum of one tempered pane meeting the Safety Glazing

requirements of CBC Sec. 2406 and R308. Glass block units. c. 20-minute fire-resistance rating. d. Meet SFM Standard 12-7A-2

Operable Skylights ombustible mesh screen where the dimensions of the openings in the screen do not exceed

Structural Glass Veneer – R337.8.2.3/708.A.2.3 2. The wall assembly behind the structural glass veneer shall comply with the wall requiremen of Sec. R337.7.3/707A.3

Exterior Doors - R337.8.3/708A.3 23. Exterior doors shall comply with the following

a. The exterior surface or cladding shall be of noncombustible or ignition-resistant material, or b. Constructed of solid core wood that complies with the following: Stiles and rails shall not be less than 3/8 inches thick.

a rail is designed per Section R308.4.6.

above the landing and within 60 inches

ceiling and the second shall be within 12 inches of

the bottom of the enclosure. The dimension shall

Passageway shall be unobstructed and shall have

entrance to appliance. (MC 904.10.2)

A level working platform not less than 30 inches by

30 inches is required in front of the service side of the appliance. (MC 904.10.3)

solid flooring not less than 24 inches wide from

(MC 904.2(2)

Page 2 of 3

horizontally of the bottom tread, unless the glazin

the raised panel that may taper to a

Raised panels shall not be less than 1

 Fire-resistance rating of not less than 20 The exterior surface or cladding shall be tested

707.A.3.1 when tested in accordance with ASTM E2707 e. Meet SFM Standard 12-7A-1. Exterior Door Glazing - R337.8.3.1/708A.3.1 24. Shall meet the requirements of R337.8.2.1/708A.2.1 above.

Garage Door Perimeter Gap

25 Exterior garage doors shall resist the intrusion of embers from entering by preventing gaps between doors and door openings, at the bottom, sides and tops doors and door openings shall be controlled by one of the following methods:

 Weather stripping hazards b. Door overlaps onto jambs and headers c. Garage door jambs and headers covered with

DECKING - R337.9/709A 26. The walking surface material of decks, porches, balconies and stairs when any portion of such surface is within 10 ft of the building shall comply with the following: a. Material that complies with conditions of

metal flashing

accordance with both ASTM E2632 and ASTM

 Ignition-resistant material shall comply with mance requirements of Section c. Material that complies with the performance

requirements of both SFM Standard 12-7A 4 and Section R337.4.3. Exception: Wall material shall be permitted to be of any material that otherwise complies with this chapter when the decking surface complies with ASTM E84 with Class B

ame spread index. Any material that complies with Section 7.9.5 when tested with ASTM E2635 and when the attached exterior wall covering is

Exception: Wall material shall be permitted to

be of any material that otherwise complies with this chapter when the decking surface complies with ASTM E84 with Class B flame spread ACCESSORY STRUCTURES - R337.10/710A . Group U occupancy accessory buildings and

ignition-resistant materials.

scellaneous structures that have potential to pose significant exterior fire exposure hazard during wildfires shall be constructed with ignition resistance Note: Applicable to accessory dwellings on the same lot ncluding attached and detached miscellaneou structures that require permit such as trellises, arbors, patio covers, gazebos, and similar structures 28. Miscellaneous structures and accessory dwellings

separated from applicable buildings on the same lot by less than 3 feet but less 50 feet shall be constructed or noncombustible or ignition resistant materials. 29. Roofs of accessory buildings required to be oncombustible, or ignition resistant materials shall be

Class A rating and comply with ASTM E108 and

UL790 following roofing requirements of Section 333

and Chapter 9. Ignition-resistant material shall be labeled for exterior use nd shall meet the requirements of Section R337.4.2, lowing requirements of R337.4.3 or alternative methods of

R337.4.4. Materials shall comply with conditions Items 1 and 2 below or with the conditions of acceptance of ASTM . The material shall exhibit a listed frame spread index of

not exceeding 25 when tested in accordance with ASTM E84 or UL 723. ASTM E or UL723 testing shall be continued for an

additional 20-minute-period, and the material shall exhibit a flame front that does not progress more than 10 ½ feet (3200 mm) beyond the centerline of the burner at any time during the test period.

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Public Works GENERAL PROJECT INFORMATION PLAN CHECK NO. JOB ADDRESS

Standards Code, Table (T)

GENERAL REQUIREMENTS

shall comply with the following flow rates: a. Water Closets - 1.28 GPF b. Urinals – 0.5 GPF

e. Multiple showerheads - 1.8 GPM at 80psi for all combined showerheads f. Lavatory faucets - 1.2 GPM at 60psi h. Metering faucets - .20 gallons per cycle

related air distribution component openings shall be covered with tape, plastic, sheetmetal, or other acceptable methods to reduce the amount of water. dust and debris which may enter the system.

GENERAL NOTES

GREEN BUILDING

STANDARDS CODE

DISTRICT NO NOTE: Numbers in the parenthesis () refer to sections of the 2023 edition of the County of Los Angeles Green Building

The following notes must be included on the plans

INSTRUCTIONS

Plumbing fixtures and fixture fittings on the plans

c. Wall-mounted urinal - 0.125 GPF d. Single showerhead – 1.8 GPM at 80psi g. Lavatory faucets in public use areas - 0.5 GPM

Kitchen faucets – 1.8 GPM at 60psi (4.303.1) Annular spaces around pipes, electrical cables, conduits, or other openings in sole/bottom plates at of rodents by closing such openings with cement

mortar, concrete masonry, or a similar method acceptable to the enforcing agency. (4.406.1) Fireplaces shall be direct vent sealed combustion type. Indicate on the plans the manufacturer name and model number. 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 othe

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. Insulation products which are replaced or allowed to dry prior to enclosure in wall or

Residential 2023 Green Building Standard Note

shall not exceed a VOC limit of 50 g/L.

comply with the VOC limits in Tables 4.504.1 and 4.504.2 as applicable. (4.504.2.1)8. Paints and coatings shall meet or exceed the standards outlined in Section 4.504.2.2 and comply with the VOC limits in Table 4.504.3. (4.504.2.2)

All mechanical exhaust fans in rooms with a bathtub

Fans shall be ENERGY STAR compliant and

b. Fans must be controlled by a read

be ducted to terminate outside the building.

component of a whole house ventilation

accessible humidistat unless functioning as a

system. Humidity control shall be capable of

adjustment between a relative humidity

or shower shall comply with the following:

range of 50% and 80%.

Aerosol paints and coatings shall meet or exceed the standards outlined in Section 4.504.2.3. (4.504.2.3) 10. All carpet installed in the building interior shall meet a. Carpet and Rug Institute's Green Label Plus

b. California Department of Public Health Standard Method for the testing of VOC Emissions (Specification 01350) OR c. NSF/ANSI 140 at the Gold Level OR d. Scientific Certifications Systems Indoor Advantage Gold 11. All carpet cushion installed in the building interior

2 A minimum of 80% of floor area receiving resilient flooring shall comply with one of the following: in the CHPS High Performance Products

Adhesives, sealants and caulks shall meet or exceed the standards outlined in Section 4.504.2.1 and

> Low solids coatings¹
>
> 1. Grams of VOC per liter of (4.504.3)Values in this table are deriv Suggested Control Measure

> > 5/6/22

shall meet the requirements of the Carpet and Rug Institute Green Label Program. Carpet adhesives (4.504.3.1, 4.504.3.2) a. Products certified as a Low-Emitting Material Database, OR b. Products certified under UL GREENGUARD c. RFCI FloorScore program, OR

Health Standard Method for the testing of VOC Emissions (Specification 01350) (4.504.4)13 Composite wood products (hardwood plywood

the time of inspection	٦.	(4.504.5)				
TABLE 4.504.3/TABLE 5.504.4.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATING ^{2,3} Grams of VOC per Liter of Coating.						
COATING CATEGORY	VOC LIMIT	Exempt Compounds COATING CATEGORY	VOC			
Flat coatings	50	Magnesite cement coatings	450			
Nonflat coatings	100	Mastic texture coatings	100			
Nonflat high-gloss coatings	150	Metallic pigmented coatings	500			
SPECIALTY COATINGS		Multi-color coatings	250			
Aluminum roof coating	400	Pretreatment wash primers	420			
Basement specialty coatings	400	Primers, sealers, and undercoaters	100			
Bituminous roof coatings	50	Reactive penetrating sealers	350			
Bituminous roof primers	350	Recycled coatings	250			
Bond breakers	350	Roof coatings	50			
Concrete curing compounds	350	Rust preventative coatings	250			
Concrete/masonry sealers	100	Shellacs: Clear Opaque	730 550			
Driveway sealers	50	Specialty primers, sealers and undercoaters	100			
Dry fog coatings	150	Stains	250			
Faux finishing coatings	350	Stone consolidants	450			
Fire resistive coatings	350	Swimming pool coatings	340			
Floor coatings	100	Traffic marking coatings	100			
Form-release compounds	250	Tub and tile refinish coatings	420			
Graphic arts coatings (sign paints)	500	Waterproofing membranes	250			

od plywood composite core dium density fiberboard

particle board, and MDF) installed on the interior or exterior of the building shall meet or exceed the standards outlined in Table 4.504.5. Verification of compliance with these sections must be provided at the time of inspection. (4.504.5)									
TABLE 4.504.3/TABLE 5.504.4.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATING ^{2,3} Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds									
COATING CATEGORY	VOC	COATING CATEGORY	VOC LIMIT						
Flat coatings	50	Magnesite cement coatings	450						
Nonflat coatings	100	Mastic texture coatings	100						
Nonflat high-gloss coatings	150	Metallic pigmented coatings	500						
SPECIALTY COATINGS		Multi-color coatings	250						
Aluminum roof coating	400	Pretreatment wash primers	420						

Residential 2023 Green Building Standard Notes

Gold (Formerly the Greenguard Children & d. Meet the California Department of Public

FORMALDEHYDE LIMITS¹ TABLE 4.504 2/TABLE 5 504 4 2 SEALANT VOC LIMIT Less Water and Less Exempt Compounds in Grams Per Lit

us material (except wood)

or additional information regarding methods to measure the VOC content specified i able, see South Coast Air Quality Management District Rule 1168

ned in Table 4.504.5. Verification of				Roadway	25
h these sections must be provided at				Single-ply roof membrane	45
ection. (4.504.5)			Other	42	
ection	1.	(4.504.5)		SEALANT PRIMERS	
				Architectural	
				Nonporous Porous	25 77
A DI E	4 504 2/7	ADI E 5 504 4 0		Modifited bituminous	50
ABLE 4.504.3/TABLE 5.504.4.3			Marine deck	76	
LIMITS FOR ARCHITECTURAL COATING ^{2,3} Grams of VOC per Liter of Coating,				Other	75
		Exempt Compounds	- 1	Note: For additional information regarding methods to measure the	ne VOC content sp
55 Wate	VOC	COATING CATEGORY	voc	table, see South Coast Air Quality Management District Rule 1168	l.
	LIMIT	COATING CATEGORY	LIMIT		
	50	Magnesite cement coatings	450	TABLE 4.504.1/TABLE 5	504 4 1
	100	Mastic texture coatings	100		
	150	Metallic pigmented coatings	500	ADHESIVE VOC LIM	ilT ^{1,2}
		Multi-color coatings	250	Grams of VOC per Liter of C	
	400	Pretreatment wash primers	420	Less Water and Less Exempt C	
		Primers, sealers, and		ARCHITECTURAL APPLICATIONS	VOC
	400	undercoaters	100	Indoor carpet adhesives	5
	50	Reactive penetrating sealers	350	Carpet pad adhesives	5
	350	Recycled coatings	250	Outdoor carpet pad adhesives	15
	350	Roof coatings	50	Wood flooring adhesives	10
	350	Rust preventative coatings	250	Rubber floor adhesives	6
		Shellacs:		Subfloor adhesives	5
10	100	Clear	730	Ceramic tile adhesives	6
		Opaque	550	VCT and asphalt tile adhesives	5
	50	Specialty primers, sealers and undercoaters	100	Drywall and panel adhesives	5
	150	Stains	250	Cove base adhesives	5
	350	Stone consolidants	450	Multipurpose construction adhesives	7
	350	Swimming pool coatings	340	Structural glazing adhesives	10
	100	Traffic marking coatings	100	Single-ply roof membrane adhesives	25
	250	Tub and tile refinish coatings	420	Other adhesives	5
aints)	500	Waterproofing membranes	250	SPECIALITY APPLICATIONS	
aiiits)	420	Wood coatings	275	PVC welding	51
ngs	250	Wood coatings Wood preservatives	350	CPVC welding	49
iys	120	Zinc-rich primer	340	ABS welding	32
of coating		zinc-ncn primer ad including exempt compounds.	340	Plastic cement welding	25
-	-	mits are listed in subsequent columns in the table.	- 1	Adhesive primer for plastic	55
		· ·	- 1	Contact adhesive	8
derived from	n those specified arv 1, 2008. Mov	by the California Air Resources Board, Architectural re information is available from the Air Resources Bo	Coatings and	Special purpose contact adhesive	25
0, 1 0010	, 1, 2000. MU			Structural wood member adhesive	14
				Top and trim adhesive	25
				SUBSTRATE SPECIFIC APPLICATIONS	
				Metal to metal	3

per the 2022 California Building Energy Efficiency Standards TABLE 4.504.5/TABLE 5.504.4.5 <u>NOTE</u>: These requirements apply to <mark>new construction for <u>single family</u> residentia</mark>

Water Heating System (Option 1) - Section 150.0(n)

Standard Notes for "Electric Ready" Requirements

• Provide a designated space (2.5' by 2.5' wide and 7.5' tall) within 3 feet of gas water Provide a 20A/1P circuit to a receptacle outlet near the gas water heater.

 Reserve the space next to this circuit breaker and label both as "for future 240V use" Provide the receptacle circuit with 3#10 conductors + #10 ground. • Mark both ends of the unused conductor as "spare" Water Heating System (Option 2) - Section 150.0(n)

 Provide designated space (2.5' by 2.5' wide and 7.5' tall) more than 3 feet from gas water heater Reserve a 2 pole breaker space and label as "for future 240V use". Provide a junction box at this designated space with a minimum 30A rated branch

 Cold and hot water supply lines pass through the designated space as described in 150.0(n)(1)(B)(iii)-(v).

Electric Clothes Dryer Ready - Section 150.0(v)

inimum airflow rate required by §150.0(o)1

sizing, flow rate, piping, filters, and valves. *

Mark the junction box cover as "240V ready".

Mark the junction box cover as "240V ready"

Refrigerator receptacle outlet

Bedroom receptacle outlet

Energy Storage Ready - Section 150.0(s) Provide main service panel with a minimum 225A busbar rating. Provide a minimum 60A rated subpanel. Provide a minimum 60A breaker and feeder to the subnanel Provide at least the following four circuits in the subpanel:

 Lighting circuit near primary egress Provide sufficient space between the main panel and subpanel for future transfer

Heat Pump Space Heater Ready - Section 150.0(t)

Provide a junction box within 3 feet of the gas furnace with a minimum 30A rated branch circuit wiring (3 #10 conductors + #10 ground). Mark the junction box cover as "240V ready". Reserve a 2 pole breaker space and label as "for future 240V use"

Electric Cooktop Ready - Section 150.0(u) Provide a junction box within 3 feet of the gas cooktop with no obstructions and with a minimum of 50A rated branch circuit conductors (3 #6 conductors + #10 ground). Mark the junction box cover as "240V ready". • Reserve a 2 pole breaker space and label as "for future 240V use".

Provide a junction box within 3 feet of the gas dryer with no obstruction with a

Reserve a 2 pole breaker space and label as "for future 240V use"

minimum 30A rated branch circuit conductor (3 #10 conductors + #10 ground).

Public Work

GENERAL PROJECT INFORMATION DISTRICT NO PLAN CHECK NO. JOB ADDRESS NOTE: Numbers in the parenthesis () refer to sections of the 2023 edition of the County of Los Angeles Building C (BC), Residential Code (R), Plumbing Code (PC), Mechanical Code (MC), Electrical Code (EC), and Green Building

INSTRUCTIONS

SECURITY REQUIREMENTS Exterior doors, doors between house and garage, windows and their hardware shall conform to the Security Provisions of Chapter 67 of the Los Angeles

County Building Code (LACBC): a. Single swinging doors, active leaf of a pair of doors, and the bottom leaf of Dutch doors shall be equipped with a latch and a deadbolt key operated insert with 1" minimum throw and 5/8" minimum embedment into the jamb. If a latch has a key locking feature, it shall be dead latch type. (BC6709.2)

. Inactive leaf of a pair of doors and the upper leaf of Dutch doors shall have a deadbolt as per paragraph "a", unless it is not key operated from e exterior, or has a hardened deadbolt at top and bottom with ½" embedment. (BC6709.3) c. Swinging wood door(s) shall be solid core not less d. Panels of wood doors shall be 9/16" thick and not

more than 300 sq. inches. Stiles and rails to be 1-3/8" thick and 3" minimum width. (BC6709.1.2) e. Door hinge pins accessible from the outside shall be non-removable. (BC6709.5) f. Door stops of wood jambs of in-swinging doors shall be one piece construction or joined by a rabbet.

(BC 6709.4) g. Windows and door lights within 40" of the locking device of the door shall be fully

bars, screens or grills.

exceeding 9 feet in width

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empered/approved burglary resistant/prof

otherwise locked by electric power operation.

Jamb locks shall be on both jambs for doors

 Sliding glass doors and sliding glass windows shall be capable of withstanding the tests set forth in Section 6706 and 6707 of the Los Angeles County Building Code and shall bear a label indicating compliance with these tests. (BC 6710, 6715) CONSTRUCTION REQUIREMENTS

Notching of exterior and bearing/nonbearing walls shall not exceed 25% / 40% of its width, respectively. Bored holes in bearing/nonbearing walls shall not exceed 40% / 60% of its width, respectively. (R602.6) Interior finishes in Group R-3 shall have a flame developed index not greater than 450. (R302.9) 4. Provide fire blocking in concealed spaces of stud and floor level, and at 10-foot intervals both vertical

Ducts installed under a floor in a crawl space shall not prevent access to an area of the crawl space. Where it is required to move under ducts for access to areas of the crawl space, a vertical clearance of 18" minimum shall be provided. (MC 603.1) Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than .019 inch (No. 26 galvanized sheet). Note on the plans: "Roof diaphragm nailing to be

inspected before covering. Face grain of plywood shall be perpendicular to supports." Subfloors shall have end-matched lumber, have blocked panel edges, or occur over supports. Floor sheathing shall comply with Section R503. (BC6714) Provide a note: "SMOKE ALARM shall be h. Overhead and sliding garage doors shall be interconnected hard-wired with battery backup and secured with a cylinder lock, a padlock with a shall be installed in accordance with NFPA 72." (R314) ardened steel shackle, or equivalent when not D. Provide a note: "CARBON MONOXIDE ALARM shall

be interconnected hard-wired with battery backup."

RESIDENTIAL PLAN

I. Finish materials including adhesives, sealants, caulk, paints & coatings, carpet systems, etc. shall meet the VOC) emission limits per LACGBSC Chapter 4. 12. In newly constructed dwelling units, electrical receptacle outlets, switches and controls shall be the outlet box and not less than 15-in. from the bottom of the outlet box above the finish floor. (R327.1.2)

controls, shall not exceed 48-in. above exterior floor or anding, measured from the top of the doorbell butto 14. Provide a note on the plans "Fasteners for shall be of hot dipped zinc-coated galvanized steel in accordance with ASTM A 153."

2. The bottom edge is less than 18 inches above

2 The glazing is within 60 inches measured

tub, spa, whirlpool, bathtub, or swimming pool,

horizontally and in a straight line, from a hot

line, of the glazing

13. In newly constructed dwelling units, doorbell button or

68 degrees F at 3 feet above the floor and 2 feet from GLAZING REQUIREMENTS exterior walls. 17. The following are required for central heating furnaces 15. The following shall be considered specific hazardous ocations requiring safety glazing per Section R308: a. Glazing in fixed and operable panels of swinging, a. Listed appliances shall be installed wi sliding, and bifold doors. clearances in accordance with the terms of their listings and the manufacturer's installa b. Glazing in fixed or operable panels adjacent to a

door where the nearest vertical edge of the instructions. (MC 904.2(1)) glazing is within a 24-inch arc of either vertical o. Unlisted appliances shall meet both the clearances edge of the door in a closed position and where in Table 904.2, and the clearances allowed by the e bottom exposed edge of the glazing is less manufacturer's installation instructions. than 60 inches above the walking surface. Window glazing in an individual fixed or operable When combustion air is taken from inside, the area panel, that meets all of the following conditions of combustion air openings shall be 1 sq. inch per 1. The exposed area of an individual pane is 1,000 BTU (100 sq. inch minimum) per opening One Opening shall be within 12 inches of the larger than 9 square feet.

3. The top edge is more than 36 inches above the d. 1/4-inch screens are required at openings where combustion air is taken from the outside. 4. One or more walking surfaces are within 36 inches, measured horizontally and in a straight Separate ducts shall be used for upper and lower combustion air openings and maintained to the Glazing in guards, railings, structural baluster source of combustion air. (MC 701.11(4)) panels, and nonstructural in-fill panels. 18. The following are required for appliances installed i

regardless of area or height above a walking an attic: a An opening and passageway shall not be less than Glazing in walls, enclosures or fences containing 22 inches by 30 inches, or less than the size of the or facing hot tubs, spas, whirlpools, saunas largest piece of equipment. (MC 904.10) steam rooms, bathtubs, showers, and indoor or Where the passageway height is less than 6 feet outdoor swimming pools, where all of the the distance from access to the appliance shall no following conditions are present: exceed 20 feet, as measured along the centerline. The bottom edge of the glazing is less than 60. (MC 904.10.1) inches above any standing or walking surface

Glazing adjacent to stairs and ramps where the bottom exposed edge is less than 36 inches above fixture shall be installed near the appliance. Light he plane of the adjacent walking surface of stairways, landings between flights of stairs, and passageway. ramps, unless the glazing is more than 36 inches A type B or L gas vent shall terminate not less measured horizontally from the walking surface, or than 5 feet above the highest connected appliance flue collar or draft hood. (MC 802.6.2.1) Glazing adjacent to the landing at the bottom of a g. Appliance installation shall meet all listed stairway where the glazing is less than 36 inche

clearances.

is more than 18 inches from a protective guard per back-draft damper. Screens shall not be used, and the exhaust duct may not extend into or through ducts and MECHANICAL/PLUMBING/ELECTRICAL CODE REQUIREMENTS 20. Clothes dryer moisture exhaust duct shall be 4 inches 16. Dwelling shall be provided with comfort heatin in diameter and length is limited to 14 feet with two elbows from the clothes dryer to point of termination. facilities capable of maintaining a room temperature or Duct length shall be reduced by 2 feet for every elbow in excess of two. (MC 504.3.1 & 504.3.1.2)

Heating appliances (water heater, furnace, etc.) located in the garage, which create a glow, spark or flame, shall be installed at least 18 inches above the (MC 308.1) 22. Ducts shall be sized per Chapter 6 of the Mechanical 23. The effective flush volume of all water closets shall not exceed 1.28gpf. Urinals shall be 0.5gpf maximum

(GC 4.303.1.1) 24. Single shower heads shall have a maximum flow rate or 2.0apm at 80psi. Multiple shower heads serving one shower shall have a combined flow rate of 2.0gpm at 80psi, or the shower shall be designed to allow only

25. Lavatory faucets shall not exceed 1.5gpm at 60psi. The minimum flow rate shall not be less than 0.8gpm at 20psi. (GC 4.303.1.4) 26. Kitchen faucets shall not exceed 1.8gpm at 60psi. The not to exceed 2.2gpm at 60psi, and must default to the maximum flow rate of 1.8gpm at 60psi. (GC 4.303.1.4)

7. ABS and PVC DWV piping installations are limited to

not more than two stories of areas. (PC 701.1(2))

e. A permanent 120V receptacle outlet and a lighting 28. All showers and tub-showers shall have a pressure balance, thermostatic mixing valve, or a combination pressure balance/thermostatic mixing type valve. . All new, replacement and existing water heaters shall be strapped to the wall in two places. One on the

upper 1/3 of the tank, and one on the lower 1/3 of the

tank. The lower point shall be a minimum of 4 inches

9. Clothes dryer moisture exhaust duct shall terminate on . Plumbing plan check and approval are required for 2 the outside of the building and shall be equipped with a inch or larger gas lines and/or water lines. Ground-fault circuit-interruption (GFCI) for personne shall be provided per EC section 210.8(A) and installed in a readily accessible location. . Arc-fault circuit-interruption shall be installed to provide protection of the branch circuit.

 Tamper-resistant receptacles shall be installed in all areas specified in 210.52, all nonlocking-type 12-volt 15- and 20-ampere receptacles shall be listed tamperresistant receptacles. . Where NM Cable (Romex) is run across the top of ceiling joists and/or where the attic is not accessible by

the nearest edge of the scuttle or attic entrance shall . Sewer. ADU/JADU sewage can be connected to the existing sewer system at a minimum of 24-inches outside the existing building foundation. It must be approximately 12-inches below grade with no less than 2% to the final connection point. Cleanouts must be installed at intervals as required by the Plumbing Code with locations and size specified on the site plan. Cleanouts shall be installed for each pipe size ar within ½" inch of the diameter pipe which the cleanout (combination venting must be calculated based on the pipe size and fixtures); proper use of materials and fittings; under floor or under slab-ABS 12" below grade: underfloor strap with proper straps with rodent

pipe protection for dissimilar straps. Fasteners must be

approved galvanized, zinc, hot dip, and no "Drywall Screws". A minimum 10-foot head water test is

required during underground drain waste inspection.

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§ 150.0(g)2:

Fireplaces, Decorative Gas Appliances, and Gas Log:

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less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. * Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be callked and/or weather-stripped.

Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped. sulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of House Goods and Services (BHGS).

oofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specifie Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Cons Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access pors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gaskete prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.

Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value

Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the

raming or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding Masonry walls must meet Tables 150.1-A or B. * Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from Japor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class

Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood

apor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of

all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.

Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have

Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces. Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inche § 150.0(e)2: area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. * § 150.0(e)3: Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. * Space Conditioning, Water Heating, and Plumbing System:

Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N.*

a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone. nd in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and he cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. *

Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *

Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank § 110.3(c)3: Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with § 110.3(c)6: hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed. 5/6/22

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piping must be insulated as specified in § 609.11 of the California Plumbing Code. *

Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation
Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water

Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment' maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (n

Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a

struction Standards Metal and Flexible 3rd Edition, Portions of supply-air and return-air ducts and plenums must be insulated

contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement

CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVA0

adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must

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include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproduction non-crushable casing or sleeve.

Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5 x 2.5 x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain ore than 2" higher than the base of the water heater Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPI R&T), or by a listing agency that is approved by the executive director.

R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 72 The combination of mastic and either mesh or tape must be used to seal openings greater than \(\mathcal{X}_{\text{if mastic}} \) f mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials other than sealed sheet metal, duct board or constructed with materials or the combination of mastic and either mesh or tape in use of the combination of master or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of master or constructed with materials of the combination of materials or constructed with materials of the combination of master or constructed with materials of the combination of materials or constructed with materials of the combination of materials or constructed with materials of the combination of materials or constructed with materials or constructed with materials or constructed with the combination of materials o flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. * Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.

Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.

Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic

Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible

manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.

Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind.

Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plast cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating. outer vapor barrier.

Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1. Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MFRV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing

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2022 Single-Family Residential Mandatory Requirements Summary Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air

eference Residential Appendix RA3.3. * Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. rentilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses . Single-family detached dwelling units spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.

Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G Pool and Spa Systems and Equipment:

Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting of he heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must no use electric resistance heating. *

iping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater. or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.

Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. * Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitche range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and lir closets with an efficacy of at least 45 lumens per watt. Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA6 Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be airtight and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met. Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 § 150.0(k)1D § 150.0(k)1E luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor

handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with entilation and Indoor Air Quality:

Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the wholedwelling unit ventilation airflow required per \$150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per §150.0(o)1Biii&iv. C

and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercia Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have deman ontrolled exhaust system meeting requirements of §150.0(o)1Giii.enclosed kitchens and bathrooms can use demand-controlled o tinuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound pe §150.0(o)1Gvi. * Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)1C mi be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the

Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover. Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time § 110.4(b)3: switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods. Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.

Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump

Control, low voltage wiring, or fan speed control.

Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust § 150.0(k)1F: hoods) must meet the applicable requirements of § 150.0(k). *

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Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires. Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not require to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet of § 150.0(k)2A: Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A. Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems. *

§ 150.0(k)2B: to comply with § 150.0(k). § 150.0(k)2C: Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.5 Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified utomatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminain § 150.0(k)2E: must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.

Dimmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A. Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.

Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to

ontrol) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all

Shading. The solar zone must not contain any obstructions including but not limited to: vents, chimneys, architectural features, and roof

Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the

Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned

on and off. *

Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed

applicable requirements may be used to meet these requirements.

Internally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts or power.

Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0. Single-family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).

Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 §110.10(b)1A: square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet or no less than

located on the roof or overhang of the building and have a total area no less than 250 square feet. *

Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.

§ 150.0(k)3A: other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch

rizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of § 110.10(b)3B: solar zone, measured in the vertical plane.*

Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.

Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a § 110.10(c): pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family esidences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system. § 110.10(e)1: Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole § 110.10(e)2: circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

2022 Single-Family Residential Mandatory Requirements Summary Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source. Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wining installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cove identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as

"240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanent

Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A

dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with

the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole sircuit breaker permanently marked as "For Future 240V use."

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