PLUMBING AND MECHANICAL REQUIREMENTS FOR COMMERCIAL KITCHENS

CPC/CMC 111.1	State Fire Marshall Amendments relating to fire and panic safety apply to places of assemblage of 50 or more persons for drinking and dining
CPC 214	Equipment or materials shall be listed
CPC 310.1	Plumbing systems shall be installed conforming to the code or manufacturers instructions, whichever is more stringent
CPC 311.11	No exposed ABS (plastic piping with a flame-spread rating of 75 or more.)
CPC 318	Special provisions when drain piping is installed above food-handling areas
CPC 402.4	Metered faucets delivering not more than 0.25 gallons per use are required in restaurants
CPC 406.2	Restaurant kitchen sinks may be made of 16 gauge metal.
CPC 408.2	Water closets shall be elongated with open front seats
CPC 411.1	Floor sinks and floor drains shall be suitable flanged to provide a water tight joint in the floor.(slab)
CPC 411.2.2	Floor drains shall be installed in commercial kitchens
CPC 411.4	Floor shall slope to drain. (approx 4' diameter)
CPC 412.1.1	Alterations greater than 50% shall have accessible water closets, urinals and lavs.
CPC 412.4.2	In food prep areas, fixture requirements may be dictated by the health codes. (fixture type, location and quality)
CPC 412.5.1	Sanitary fixture requirements for customers and employees shall be permitted to be met with a single set of restrooms. Use the greater number or either customers or employees.
CPC 412.6	Food Service Establishments with an occupant load of 100 or more shall have separate restrooms for employees and customers.
CPC 413.1	Hot water to public use lavs shall be limited to 120°F. Water heater thermostat shall not be considered as complying (when it provides hot water for more than just the lavs.)

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CEC 113 (c) 3	Temperature controls for public lavs shall limit the temp to 110° F. The water heater control may comply when only the lavs are supplied. (check with the health dept for lavs in restaurants)
CPC ch 5	Water heaters are sized by BTUH and recovery by the health code.
CPC 507	Check for combustion air and venting
	Check for water heater clearances and seismic anchors.
CPC 510.6.2.6	Gas vents shall terminate not less than 3' above forced air inlets
CEC table 123-A	1" thick insulation for hot water piping up to 2"Ø. and 140°F, use 1.5" insulation for 141-200°F. Only the 1st 8' hot and cold piping needs insulation for non-recirc systems.
CPC 603.1	Backflow devices shall be certified
CPC 603.4.12	Check for internal or external backflow devices on carbonators such as soda and beer dispensers and espresso machines.
CPC 604.1	Water piping shall meet the requirements of NSF 61
	Restaurants usually have their own water service and meter due to high water use compared to neighboring retail/office use.
CPC 609.10	Water Hammer devices required for quick acting valves.
CPC 610.4	Water sizing for systems within the range of table 6-6 may also be sized by the tables or Appendix A. Pex (listed parallel systems) shall be installed in accordance with their listing. CPVC systems shall be sized per IS-20-2005 (located in the back of the Plumbing Code)
CPC 608.5	Temperature and Pressure Relief valves shall terminate outside or to other approved locations.
CPC 701.1	Verify drainage piping material types.
CPC 704.3	Pot sinks, dishwashing sinks commercial dishwashing machines shall be directly connected to the drainage system and protected by a floor drain.
CPC 707	Provide cleanouts as required, Cleanout plugs shall have raises square heads or countersunk rectangular slots. Kitchen wall and floor surfaces shall have a cover over the cleanout plug.
CPC 712	Testing by 10' head of water or 5 pound air test.

CPC 714.4	The AHJ shall review before approval the installation of a commercial food waste grinder to a private sewage disposal system.
CPC 801	Where an airgap is required it shall not be less than 1” above the flood level rim of the receptor.
CPC 801.2	Provide indirect drainage for refer boxes, coils and walk-ins, ice boxes, ice machines, steam tables, coffee brewers, hot and cold drink dispensers and similar eq.
CPC 801.2.1	Indirect waste piping shall not be smaller than 1” and not exceed 15’
CPC 801.2.3	Provide separate drains from the ice machine and the ice bin. Keep them separate to the point of disposal. Food prep sinks and other equipment, used for product of human ingestion, with drainage connections shall be indirectly connected. Refer coils and ice makers which may use ¾” drains, Piping from other eq. shall not be smaller than the drain on the unit or ½” minimum.
CPC 801.3	Where a **sink** in a bar, soda fountain or counter cannot be properly trapped and vented, provide an indirect connection to an approved receptor that is properly trapped and vented. This indirect line shall not exceed 5’
CPC 803	Indirect lines greater than 5’ shall be trapped. Indirect lines less than 15’ need not be vented. The vent shall remain separate from any other system vent.
CPC 804.1	No indirect receptor shall be installed in a store room or other portion of the building not in general use.
CPC 805	No piping or equipment discharges under pressure shall directly connect to the drainage system. Except approved fixtures and devices where the drainage system is properly sized …ie commercial dishwashers.
CPC 807.4	No domestic dishwashing machine shall be connected directly to a drainage system. Use an airgap fitting.
CPC 811	Carbonated liquid waste piping shall be of corrosive resistive material. Do not use copper piping or cast Iron until proper neutralization or dilution has occured .
CPC 811.7	Chemical (corrosive) waste shall discharge in a manner approved by the AHJ.
CPC 902.2	Traps serving sink that are part of the equipment of bars, need not be vented as long as the drain is indirectly connected to an open floor sink or other approved type of receptor.
CPC 1001.2	One trap serving a three compartment sink shall have the trap centrally located.
CPC 1001.3	No food waste disposal unit shall be installed with any set of restaurant sinks served by a single trap. Use a separate trap.

CPC 1006	Floor Drain inlets shall be so located that it is at all times in full view.
CPC 1007	Floor drains and similar traps subject to infrequent use shall be protected by a trap seal primer.
CPC 1014	Where it is determined by the AHJ that waste pretreatment is required, an approved grease interceptor shall be installed.
CPC 1014.1.3	No food waste or dishwashers shall connect to grease interceptors. CPC 1014.3.2.1 allows dishwashers to be connected to gravity interceptors
CPC 1014.2.1	Hydromechanical grease interceptors shall be provided an approved, readily accessible flow control at each fixture drained thereto.
CPC 1014.3.4.1	Gravity grease interceptors shall not be installed in a part of the building where food is handled
CPC 1014.3.4.3	Each business establishment shall have an interceptor that serves only that establishment unless otherwise approved by the AHJ
CPC 1203	Quick-Disconnect Device is a hand operated device that provides a means of connecting an appliance to a gas supply and is equipped with an auto shutoff.
CPC 1204.3	Rough gas piping shall be inspected before any piping is covered. Final piping inspection is after all portions are covered.
CPC 1209.5.3.4	CSST tubing shall be tested, listed and sized in compliance with their installation instructions.
CPC 1211.3.2	Where gas piping is to be concealed, unions, tubing fittings, right and left couplings, bushings, swing joints and compression joints made by combinations of fittings shall not be used.
CPC 1212.7	Sediment traps shall be installed as close as practical to the inlet of the gas utilizing equipment. Ranges shall not be required to be so equipped.
CPC 1214.3.3	When the volume of the gas piping system is greater than 10 cu.ft, the test duration is increased from 10 minutes to 30 minutes.
	Type I hood suppression testing by the Fire District requires gas pressure from the purveyor (PGE). This may be needed prior to your final inspection.
CEC	Definition of Directly Conditioned Space; A system capable of exceeding 10 Btu//sq.ft. heating or 5 Btuh/sq.ft cooling. Evaporative cooling is not considered mechanical cooling
CEC 121	All spaces shall be continuously ventilated during occupied hours, except storerooms

CMC 312.1	Air filters installed in HVAC systems shall be listed as class I or II
CMC 401	*[SFM] Air Filters shall comply with all the requirements of Part 12 Title 24 Chapter 12-71, SFM Standard 12-71-1*
CEC table 4-1	Dining and Drinking room occupant load factor for ventilation is 15sq.ft per person, Commercial Kitchen is 200sq.ft per person. Use 15-cfm per person or the area rate (table 4-2) if it is higher.
CEC table 4-2	Use .5-cfm per sq.ft ventilation for drinking and dining areas. Use .15-cfm per sq.ft for kitchen areas. (Requirement for hood make up air may be higher for the kitchen area.)
CMC table 4-1	Use 15sq.ft per person at 7.5cfm per person and add .18-cfm per sq.ft in the dining area. (Use the Energy Code requirement if it is more.)
CMC 511.3	Replacement/Make up air shall be adequate to prevent negative pressures in the commercial cooking area from exceeding 0.02" w.c. (Return air is no longer prohibited from kitchens, but care should be taken to prevent negative pressures in the commercial cooking area from exceeding 0.02" w.c)
CMC 511.3	Compensating hoods shall extract at least 20% of the required exhaust airflow from the kitchen area
CMC 502	Concealed space is stud spaces down to 1 ¾" thick and attics up to 8' high.
CMC 502	Limited combustible material is limited to a potential heat value of less than 3500 Btu/lb., and either A)… or B) materials not exceeding flame spread in excess of 25…
CMC 507	Hoods for grease removal are type I, heat steam and odors are type II
CMC 507.1	Cooking equipment listed with UL 197 and producing grease less than 5 mg per second may be exempted from hoods.
CMC 507.2	Exposed hoods and grease ducts clearance 18" from combustible, 3" from limited combustible, and 0" from non-combustible.
CMC 507.2	Clearance from exposed hood or duct may be reduced by metal spaced out 1" from combustible material or lath, plaster and tile over limited combustible material.
CMC 507.2.3	Field applied and Factory built grease duct enclosures allowed per manuf. instructions and code limitations.
CMC 508.1.1	Type I material thickness is increased to 18 gauge galvanized or 20 gauge stainless with the perimeter joints welded.

CMC 508.6	Listed hood assemblies shall be installed as per their listing. Unlisted hoods shall use size and cfm formulas in 508.4.
CMC 508.7	Solid-fuel hood assemblies shall be completely separate from other cooking equipment and hoods.
CMC 511.2	Grease ducts shall be sized to less than 2500 fpm.
CMC 510.5.2	Grease ducts shall be welded to the hood or bolted as per figure 5-2
CMC 510.5.2.2	Grease ducts shall be internally lapped and externally welded, not butt welded. Lapped to allow grease to drain back to the hood.
CMC 510.7	Grease duct shafts are required for multi story buildings and when fire rated ceiling/roof assemblies are penetrated in single story applications. Exceptions are allowed for field applied and factory built grease duct enclosures.
CMC 510.7.2.3	Clearance from grease ducts to enclosures are 6” minimum. Except in California where the SFM allows 3 – 12” clearance
CMC 510.7.1	When enclosures are provided, seal the bottom and ventilate the enclosure to the exterior.
CMC 510.1	Duct cleanouts required at each floor and 12’ horizontal intervals when not accessible from the entry or discharge.
CMC 510.8	Roof top terminations are 40” above the roof, 3’ above intakes less than 10’ away and 10’ from walls and property lines.
CMC 510.8.3	Wall terminations (for non-combustible walls) shall be 10 away from openings beside it and 10’ above grade. Wall fan shall be hinged to permit duct cleaning.
CMC 515.1.2	All deep fat fryers shall be installed with at least 16” space between the fryer and flames from adj. eq. This may be reduced” with an 8” high complying baffle.
CMC 511.2.2	Test and performance data shall be provided upon completion of the system.
CMC 511.2.3	The hood exhaust fan shall continue to operate after the extinguishing system is activated unless shutdown is required as a component of the extinguishing system.
CMC 701.1.4	Make-up air requirements for the operation of the kitchen ventilation shall be considered in determining the adequacy of a space to provide combustion air requirements.
CMC 701.8.2	Each of the appliances served shall be interlocked to the mechanical air supply system to prevent main burner operation where the mechanical air supply system is not in operation.

CMC 913.1 Listed Food Service Equipment shall be installed at least 6” from combustible material or as per the instructions.
Equipment listed “for use only in noncombustible locations” shall not be installed elsewhere.

CMC 913 Gives minimum clearances for unlisted food service appliances.