



City of Santa Monica Building and Safety Division

Residential Rough Mechanical Guide

This list is to be used as a general guide.

It is not inclusive of all code requirements and inspection criteria.

Per California Mechanical (CMC), Electrical (CEC), Plumbing (CPC), Building (CBC) and Residential (CRC) Codes

California Codes Available at www.bsc.ca.gov

ROUGH MECHANICAL – GENERAL

- Equipment shall be listed (and labeled) for its use. All equipment installed per manufacturer's installation instructions, which must be on site when inspector arrives. [CMC 303.1].
- Appliances anchored to resist seismic forces [CMC 303.4].
- Primary condensate shall terminate in the tailpiece of a lavatory or an approved location, not to drain to public way. Shall be a minimum 3/4" with a slope of 1/8" per foot. [CMC 310.1]
- Secondary condensate to terminate in a conspicuous location. [CMC 310.2]
- Gas fired equipment, in bedroom, bathroom, or a closet leading to a bedroom or bath shall comply with CMC 904.1
- Type B or L vents-Horizontal vent maximum 75% to the length of the vertical (Horizontal equals less than 45 degrees from vertical, minimum vent slope 1/4" per foot). [CMC 802.6.3.2]
- Clearance to combustibles: single wall vent 6", double wall (B, L and BW) vent 1" (minimum) [Table 802.7.3.4 (1)]
- Vent terminations per section CMC 802.6.2.
- Gas (appliance) connector shall not pass through a building (wall) or appliance wall. [CMC 1313.1 & 1313.2.1]
- Equipment on roof of buildings more than 15 ft. in height shall have an inside means of access to roof and shall have a guard minimum 42" high, 30" past equipment which will prevent passage of 21" sphere, if equipment is within 10' of roof edge. [CMC 303.8, 304.3, and CBC 1013.7]
- Permanent lighting required at the access point. CMC 304.3
- Electrical disconnect within sight and service receptacle within 25' on same level. CMC 301.4
- Corrosion resistant fasteners for rooftop installations. CMC 303.8.2

ENVIRONMENTAL AIR DUCTS: including dryers, bath exhaust, and range hoods

- Terminate minimum 3ft. from building opening or property line. [CMC 502.2.1]
- Back draft damper required. [CMC 504.1.1]



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CLOTHES DRYER EXHAUST

- Flexible vent connector maximum 6 feet and not concealed. [CMC 504.4.2.2]
- Duct shall be smooth metal inside and a maximum 14' with two 90-degree elbows (subtract 2ft. for each additional elbow) shall terminate outside. [CMC 504.4.2]
- Minimum diameter 4" with male end inserted in direction of airflow. [CMC 504.4]
- No screws or rivets allowed into airflow. [CMC 504.4]

BATHROOM EXHAUST FAN

- Rooms containing bathtubs, showers, spas (bathing fixtures) or water closets shall have mechanical ventilation. [CBC 1203.4.2.1]

RANGE HOOD EXHAUST

- Vertical clearance above range 30" minimum to combustibles. [CMC 921.3.2]
- Gas valve readily accessible (no tools or special knowledge required). [CPC1313.4]
- Install per manufacturer's listing. 18" minimum vertical clearance to combustibles (typically cabinets), per manufacturer's installation instructions.
- Hood and duct made of metal with smooth interior surfaces. [CMC 504.3]

ATTIC FORCED AIR UNIT

- Minimum opening for access to attic with equipment 22" x 30" or large enough to remove the largest component. [CMC 304.4]
- Maximum distance from access point 20 feet. [CMC 304.4.1]
- Solid floor from access point minimum 24 inches wide. [CMC 304.4.2]
- Level platform with 30"X30" clear space in front of unit. [CMC 304.4.3]
- Minimum attic height 30" at access. [CBC 1209.2]
- Switch at access for light at equipment. [CMC 304.4.4]
- One dedicated circuit to unit and unit hardwired per CEC 422.12 & CPC 12.11.1
- GFCI service outlet per CEC 210.63 & CMC 304.4.4

DUCTS

- Seismic restraint per CMC 603.3.3.
- Duct supports per SMACNA & HVAC duct construction standards per CMC 603.8
- No combustibles within ducts or plenums with some exceptions. CMC 602.2



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- Joints shall be made airtight by tapes, mastics, gasketing or other means. [CMC 603.10]

COMBUSTION AIR

- Minimum vent area 1 sq. in. per X,000 Btu/hr. where X is based on indoor or outdoor source, number of openings and vent configuration. [CMC 701.5&6]
- Dampers shall not be installed in combustion air ducts. [CMC 701.12]

UNDER FLOOR/FORCED AIR

- FAU minimum support slab 3 inches above grade. CMC 904.3.1
- FAU minimum 6 inches above ground when suspended, 12 inch clear on each side [CMC 904.3.1.2&3]
- Required access (to service equipment) minimum 22"x 30". [CMC 304.4]
- Access maximum 20 ft. to equipment (unobstructed) with solid 24" wide floor per CMC 304.4.1&2
- Light fixture at equipment with switch for light at access point. [CMC 304.4.4]
- GFCI outlet near equipment. [CMC 304.4.4]
- Minimum 30" X 30" level work platform at equipment. [CMC 304.4.3]
- Minimum clearance duct to earth 4". Underslab encasement in 2" concrete. [CMC 603]
- Install and support metal duct per manufacturer or SMACNA (with 1 strap every 4 feet: rigid 1", flex duct 1 1/2" extending around entire perimeter).
- Air ducts installed in a crawl space shall be installed so as to maintain a minimum vertical clearance of 18" for all portions of ducts that would obstruct access to any part of crawl space. [CMC 603.2]

GARAGE/FORCED AIR

- Min. 18" above floor and protected from vehicle damage. [CMC 305.1]
- Ducts through one hour fire-rated wall shall be a minimum 26 gauge per CRC R302.5.2
- Combustion air openings in upper and lower 12 inches of compartment. CMC 701.6

Wall Furnaces- see CMC 928 and separate checklist

Kilns- see CMC 930

Forced Air Unit Changeout - see separate checklist

Type I Hood (Commercial Kitchen Exhaust)- see CMC Chapter 5 and separate checklist