



## Residential Bathroom Requirements (2010 CBC, CPC & CEC and 2010 California Energy Code)

*This summary guide does not cover all possible bathroom designs. The requirements listed are the minimum standards for issuance of the building permit and the inspections of the work.*

### **Building Requirements** (2010 California Building Code)

#### **1) Gypsum Board in Showers and Water Closets (CBC 2509.2)**

Cement, fiber-cement or glass mat gypsum backers installed in accordance with manufacturer recommendations shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas.

#### **2) Gypsum Board in Water Closet Compartments (CBC 2509.2)**

Water-resistant gypsum backing board shall be used as a base for tile in water closet compartment walls, installed in accordance with manufacturers recommendations.

#### **3) Water-resistant Gypsum Backing Board Limitations (CBC 2509.3)**

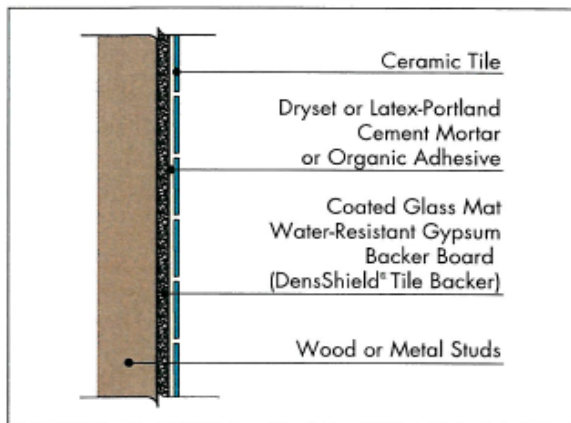
Shall not be used in the following locations:

- a) Over a vapor retarder in shower or bathroom compartment.
- b) Where there will be direct exposure to water or in areas subject to continuous high humidity such as steam room or sauna room.
- c) On ceilings where frame spacing exceeds 12 inches on center for 1/2" thick water-resistant gypsum board or more than 16 inches on center for 5/8" thick water resistant gypsum board.

#### **4) Gypsum Board in Rest of Bathroom (CBC 2509.2)**

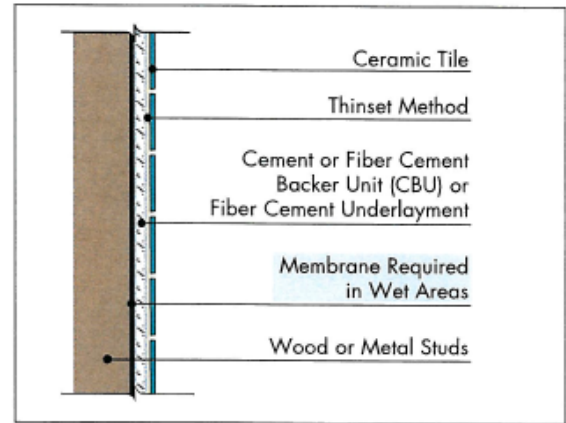
Regular gypsum board is permitted under tile or wall panel in other wall and ceiling areas.

**DensShield® Tile Backer\***



*For use in wet or dry areas*

**Cement Backer / Fiber Cement Backer /  
 Fiber Cement Underlayment Thinset\***



*For use in wet or dry areas*

**Note:** The City of Santa Clara does not endorse specific manufacturer's products; examples shown are for illustration purposes only.

# Plumbing Requirements (2010 California Plumbing Code)

## 1) Shower Drain & Trap

2 inches minimum. (CPC Table 7-3)

## 2) Shower Compartments

- a) Minimum interior of 1024 square inches.
- b) Minimum dimensions so a 30-inch circle will fit in the compartment.
- c) Minimum height above floor drain is 70 inches.
- d) Shower doors shall open to provide a minimum of 22 inches unobstructed egress opening

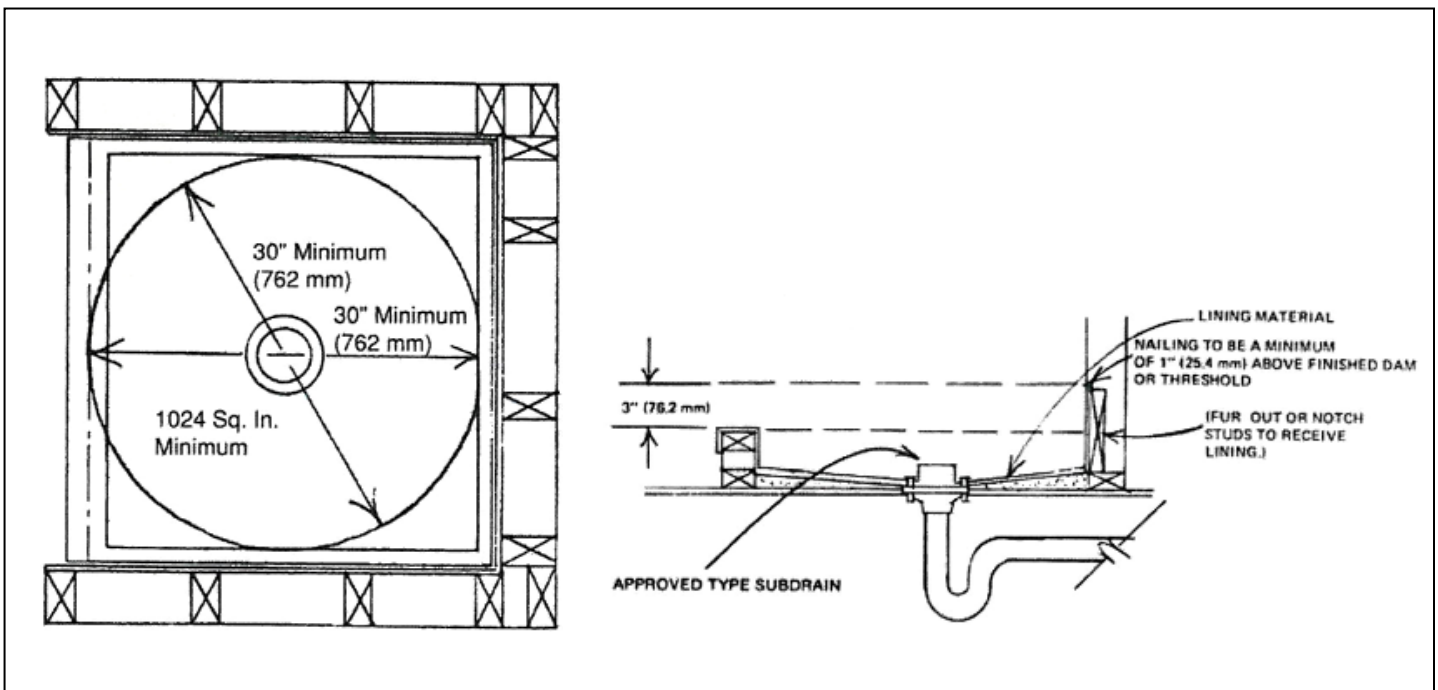
## 3) On Site Shower Pan (Receptor)

On ground type, shall be water tight, constructed with approved material, adequately reinforced and with an approved flange floor drain. Lining to be pitched  $\frac{1}{4}$ " per foot to weep holes in drain. (CPC 411.8 (1))

Above ground type, water tight lining with minimum of 3 inches above finished dam, curb or threshold height. In no case shall any dam or threshold be less than 2 inches or more than 9 inches in depth when measured from the top of the dam or threshold to the top of the drain. (CPC 411.5 and CPC 411.6)

## 4) Shower and Tub-Shower Control Valves

Control valves shall be pressure balance, thermostatic, or combination of pressure balance/thermostatic mixing valves. Handle position stops shall be provided on such valves and shall be adjusted per the manufacturer's instructions to deliver a maximum mixed water setting of 120 °F. (CPC 418.0)



## Electrical Requirements (2010 California Electrical Code)

- 1) At least one receptacle must be installed within a residential bathroom within 3 feet of the sink and (See Figure 1):
  - a) On the wall adjacent to the sink; or,
  - b) On the side or face of the sink cabinet.
- 2) Bathroom receptacles shall be install on a 20-ampere branch circuit that is (See Figure 2):
  - a) Dedicated to only bathroom receptacles; or,
  - b) Dedicated to the receptacles and lighting within a single bathroom only.

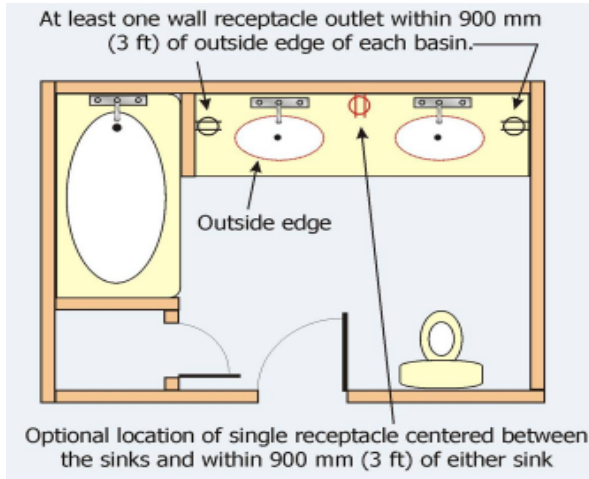


Figure 1

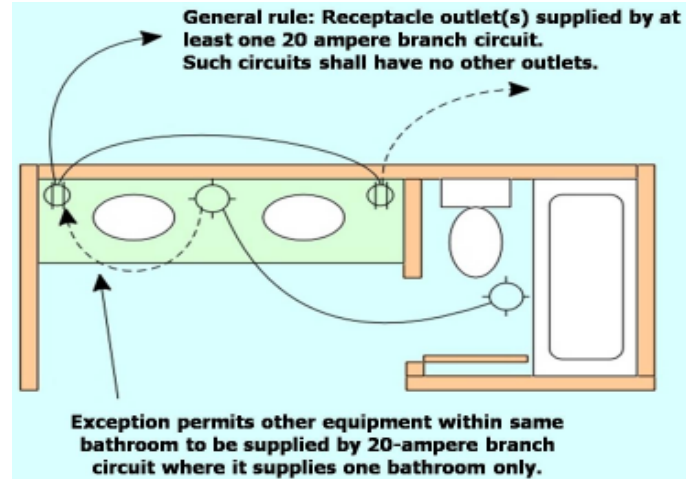
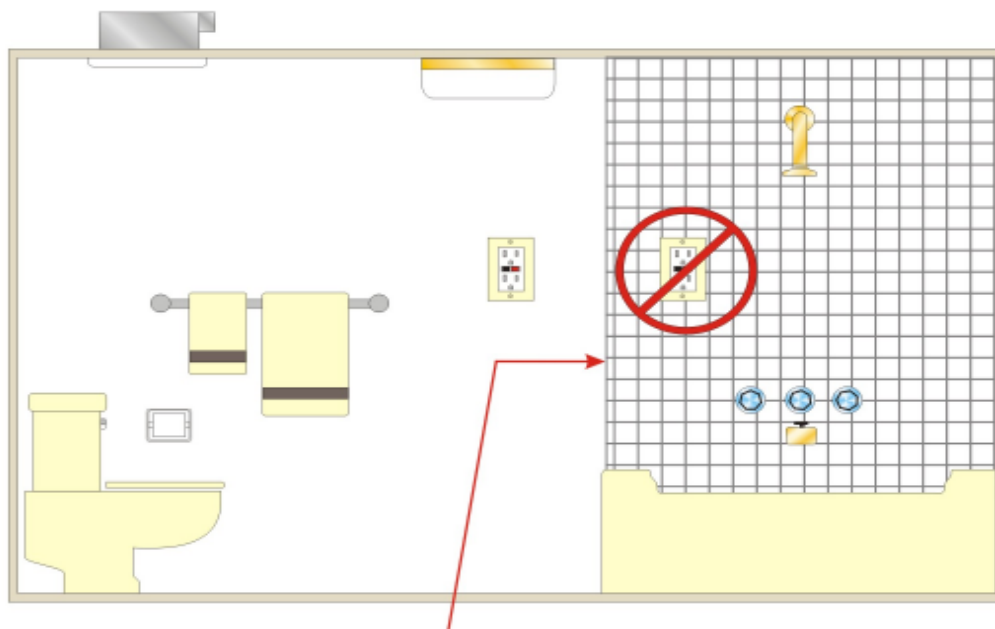


Figure 2

- 3) Ground-Fault Circuit-Interrupter protection is required for all bathroom receptacles.
- 4) Receptacles may not be installed within or directly over a bathtub or shower stall (See Figure 3).



Receptacles not permitted within or directly over bathtub or shower space

Figure 3

## **T24 Energy Requirements** (2010 California Energy Code and ASHRAE 62.2)

### **1. Lighting Requirements:**

- a. Permanently installed light fixture in bathrooms shall be High-efficacy luminaires. Low-efficacy luminaires are allowed if they are controlled by a manual-on occupancy sensor.
- b. Occupancy sensor must be manual on/off and automatic off. The maximum time delay to turn off is 30 minutes after the last detected motion. Sensors cannot have an override allowing the light fixture to be continuously on.
- c. High-efficacy and Low-efficacy light fixtures must be controlled separately.
- d. Exhaust fans with integral lighting system shall be switches separately from lighting system OR have a lighting system that can be manually turned on and off while allowing the fan to continue to operate for an extended period of time. Lighting integral to an exhaust fan must be high-efficacy.
- e. Permanently installed night light must be high efficacy lighting OR the night light is rated to consume no more than 5 watts of power and does not contain a medium screw-base socket.

### **2. Bathroom Ventilation Requirements:**

The Mandatory Measures, Section 150-(o) is NEW for the 2010 Cal Energy Code. These mandatory measures required that low-rise residential buildings meet the requirements of ASHRAE Standard 62.2 for “Indoor Air Quality and Mechanical Ventilation”. This is a health and safety measure developed by ASHRAE to ensure that dwelling units have acceptable indoor air quality.

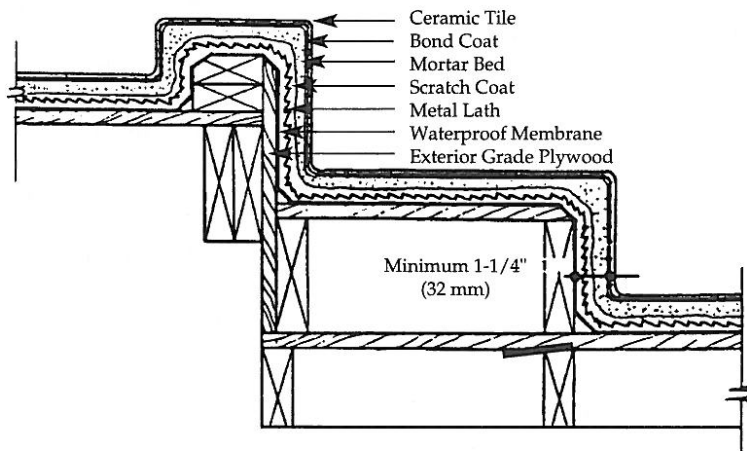
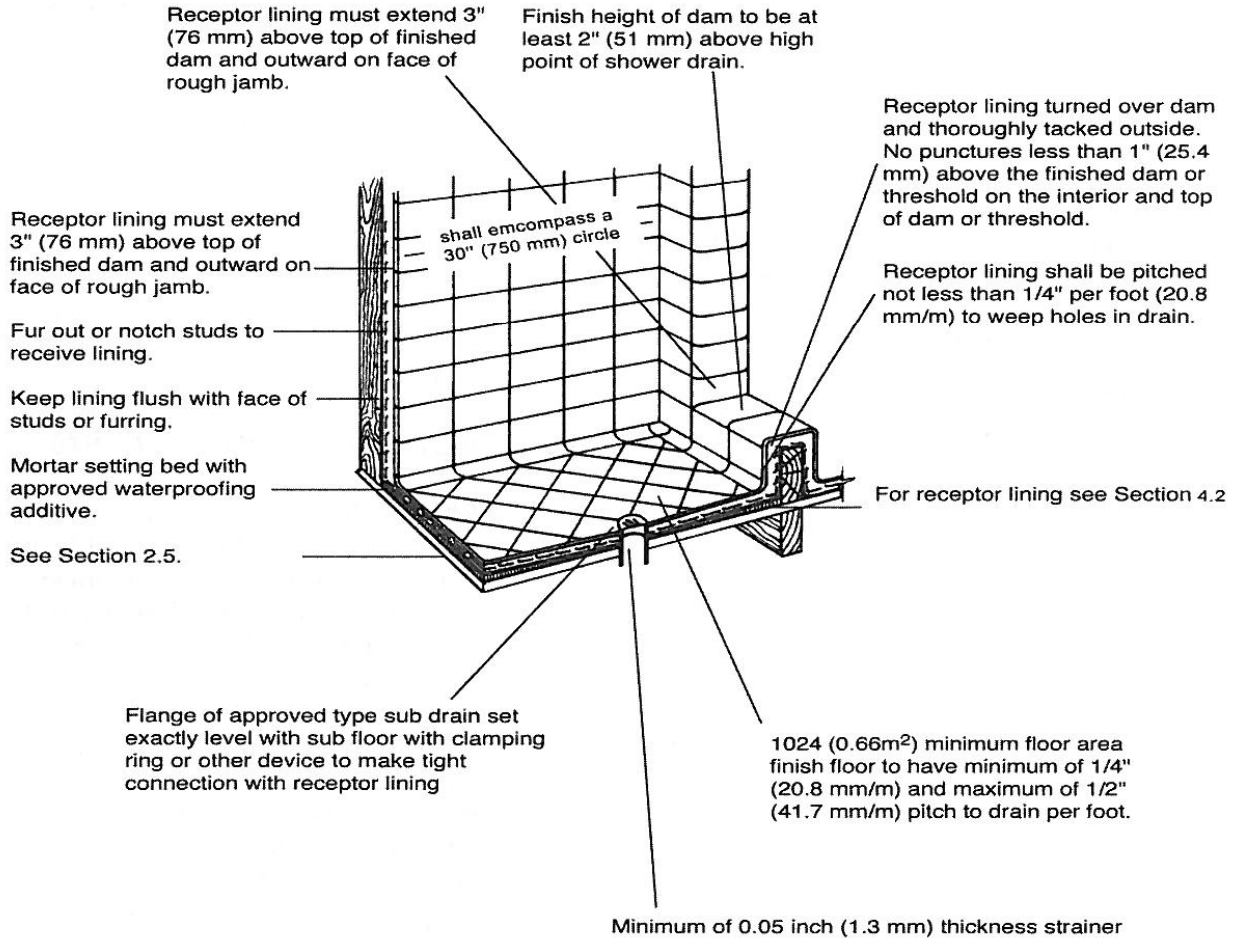
#### **When Required?**

It is mandated for all newly-constructed low-rise residential buildings (up to 3 stories) and additions greater than 1,000 square feet (original building must also comply).

#### **Local Exhaust Ventilation in Bathroom and Kitchen**

- a. Each bathroom is required to have a 50 cfm. minimum exhaust fan ducted to the outside. Bathroom is any room with a bathtub, shower, spa or similar sources of moisture. Toilet room is not considered a bathroom.
- b. The ducting for the exhaust fan shall be sized accordance to ASHRAE Standard 62.2, Table 7.1.
- c. Local exhaust fans are required to be rated for sound at a maximum of 3 sones, unless their maximum rated airflow exceeds 400 cfm.

**APPROVED CONSTRUCTION OF TILE-LINED SHOWER RECEPTORS**  
**STANDARD SPECIFICATION FOR THE INSTALLATION OF**  
**TILE-LINED SHOWER RECEPTORS**



**WOOD FORM**