

Wall switches and light fixtures in a building

[Science](#), [Physics](#)



The wall switches come in various shapes and designs, but they generally consist of a metal conducting plate and insulating plates to cover it. wall switches are constructed of metal faceplates that is to be made out of ferrous metals not less than 0.76 mm in thickness or non ferrous metals not less than 1.2 mm in thickness, and the insulating face plates are made out of an insulating non combustible material not less than 2.54 mm in thickness (NFPA 2011). The light fixtures of the place usually determine the location of the switch to help get the most efficient lighting for the place. For residential places, all the rooms light fixtures must be on a 15-amp circuit. A wall switch has to be placed near every room entry door and a receptacle has to be found every 12 feet to help operate non permanent light fixtures that cannot be operated by a switch.

Closets shall have one globe covered fixture operated by a wall switch.

Bathrooms require special moisture resistant light fixtures due to its damp environment also the fixtures should be covered with lenses or globes and one 20-amp circuit for bathroom outlets only (Thiele, 2010). In the presence of a laundry room, the washer and dryer should have their individual 20-amp circuit and in case of electric dryer an independent 240-volt circuit shall be used.

The kitchen is commonly the place with the highest number of appliances all over the home. thus it requires its own 15-amp circuit for the lighting.

Stairways need proper lighting fixtures, a switch, mostly three-way switch, is to be placed at the top and bottom of the stair and at every turn if necessary. Hallways require three-way switches at the two ends of the way and four-way switches near every door throughout the hallway, hallways

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over 10 feet long requires a minimum of one outlet for general purposes (NFPA, 2011).

Basements and garages is recommended to have three-way switches between doors and a minimum of 1 outlet is required. Outdoor lighting fixtures of a building have to be protected from weather factors and any other exterior factors by sealing the wires and having underground cables. Outdoor lighting shall have to be highly efficient and controlled by a switch. In addition to a sensor to turn off the lights during daytime for energy saving purposes