



Design Standard Wiring Devices

Purpose:

This design standard has the purpose of creating a consistent application of wiring devices throughout the South San Francisco Unified School District, therefore achieving a standard of functionality, maintenance, reliability and quality throughout.

Design Standard:

Wiring devices are identified as the following but not limited to:

- Wall Switches:
 - i) Toggle type
 - ii) Pilot light toggle type (handle is on when load is energized)
 - iii) Lighted handle toggle type (handle is on when load is not energized)
- Receptacles:
 - i) Duplex receptacles
 - ii) Isolated ground receptacles
 - iii) Ground Fault Circuit Interrupter (GFCI) receptacles
 - iv) Tamper Resistant receptacles
 - v) Special Purpose Receptacles (NEMA type as applicable)
- Wall Dimmers

All wiring devices to meet the following requirements based on Code requirements and industry standard of care.

Wall Switches

- The design professional shall, during the schematic design phase, ascertain from SSFUSD the lighting design requirements for each space. Certain classrooms require total room darkening capability. Some curriculum may have other specific lighting and switching requirements. All office and instructional spaces require occupancy sensors for energy efficiency. Restrooms (single or multiple fixtures) should not have switch-controlled lighting; instead, they require occupancy sensors.
- For Wall Switches:
 - i) Toggle type, quiet acting, 20 amp, 120 volt, UL listed. Provide brushed stainless steel cover plate.
 - ii) Pilot Light Switches: Lighted handle, toggle type, red unless noted otherwise, neon pilot lamp. Pilot lamp energized when load is energized.



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- iii) Lighted Handle Switches: Lighted handle, quiet acting, 20 amp, 120 volt, toggle type, red unless noted otherwise, neon lamp. Lamp energized when load is not energized.
- iv) Finish: Ivory.
- v) Appearance: Provide lighting switches and receptacles of common manufacturer and appearance.

Receptacles

- The design professional shall, during the schematic design phase, ascertain from SSFUSD the convenience receptacle design requirements for each space.
 - o Instructional areas: In new construction and major modernizations at typical classrooms, provide convenience outlets every 10 feet. However, this requirement is not reasonable for minor renovation projects. At computer labs and other specialized classrooms, confirm requirements with District Technology Department.
 - o Circulation spaces: In new construction, convenience outlets should be installed to support custodial activities (plugging in vacuum cleaners, floor scrubbers, etc.) as well as provide greatest convenience and flexibility for facility users.
- For Receptacles:
 - i) All devices shall be industrial /specification grade or higher, back and side wired. Residential or standard commodity grade devices are not acceptable.
 - ii) General use: 20 amp, 120 volt, GFCI where required, must be self grounding type. Provide brushed stainless steel cover plate.
 - iii) Finish: Ivory.
 - iv) Isolated Ground Receptacle: Isolated ground "delta" on receptacle face, same finish as standard duplex receptacles, 20 amp.
 - v) Ground Fault Circuit Interrupter (GFCI) Receptacle: Meets or exceeds UL943 (Class A GFCI), UL498. Feed through type, back-and-side wired, 20 amp, 125VAC.
 - vi) Tamper-Resistant Receptacle: 20 amp, 125VAC, complies with CEC requirements for tamper-resistant outlets in areas where children are cared for.
 - vii) UL Wet-Listed Covers While-In-Use: NEMA 3R when closed over energized plug. Vertical mount for duplex receptacle. Provide continuous use cover with cover capable of closing over energized cord cap with bottom aperture for cord exit.
- For Wall Dimmers, size dimmers to accept connected load. Do not cut fins. Where dimmers are ganged together, provide a single multigang coverplate.
- Conform to requirements of the CEC, latest adopted version with amendments by local AHJs.
- Furnish products listed by UL or other testing firm acceptable to AHJ.



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- Federal Specification Compliance: Comply with Federal Specification WS896 and WC596 for switches and receptacles respectively.
- NEMA Configuration: Comply with NEMA configurations and standards for general and special purpose wiring devices.
- Orientation:
 - Wall-Mounted Receptacles: Install with long dimension oriented vertically at centerline height shown on Drawings or specified herein.
 - Vertical Alignment: When more than one outlet is shown on Drawings in close proximity to each other, but at different elevations, align the outlets on a common vertical center line for best appearance. Verify with Architect.
- GFCI Outlets: One GFCI receptacle may be used to provide GFCI protection to downstream duplex receptacles on the same branch circuit provided the following conditions are met:
 - i) The downstream receptacles are in the same room as the upstream GFCI duplex receptacles, and
 - ii) The downstream duplex receptacles are labeled as being protected by an upstream GFCI receptacle in the same room.
- For quality control, provide testing of wiring devices to ensure electrical continuity of grounding connections, and after energizing circuitry, to demonstrate compliance with requirements. Test receptacles for line to neutral, line to ground and neutral to ground faults. Contractor to correct any defective wiring.

Approved Manufacturers:

- Leviton
- Hubbell
- Legrand/ Pass & Seymour
- Cooper

Substitutes Allowed:

Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards:

- Design Standard 26 50 00 Lighting

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