

WIRING DEVICES

DESIGN GUIDELINES

1. Summary:
 - a. This section provides guidelines and standards for Receptacles, Toggle Switches and Multi-Outlet Wireways.
2. Design
 - a. Receptacles:
 - Hospital grade shall be utilized in all patient areas
 - All receptacles for special equipment shall be coordinated during design with the equipment plug configuration.
 - Receptacles in wet areas, cold rooms, outside, kitchens, within 6 feet of a sink and as per the NEC shall be GFCI type or protected by GFCI circuit breakers. GFCI receptacles shall be accessible.
 - Avoid placement of refrigerators with 6 feet of sink, where possible, to eliminate need for GFCI receptacle at refrigerator.
 - Receptacles that are to be located/used outdoors shall use: Cast aluminum weatherproof while-in-use covers (Hubbell WP8M or equal).
 - Floor outlets for special applications shall be reviewed with WUSM OMFD.
 - Plugtail Wiring is NOT allowed
 - Any receptacle mounted from the ceiling (in an outlet box or wireway) shall have the arrangement, type (straight-blade or twist-lock type), orientation and height approved by WUSM.
 - All 208V receptacles shall be on dedicated circuits.
 - All receptacles in hallways used for housekeeping appliances, shall be connected to a dedicated circuit. Run #10 stranded wire as a minimum to these duplex receptacles.
 - b. Toggle Switches:
 - Typically, rooms shall be controlled by automatic means. Refer to Lighting Controls Design Standard for typical room control methods.
 - Toggle Switches shall only be used to override automatic means or where approved by the owner.
 - Plugtail Wiring is NOT allowed
 - c. Cover Plates
 - For labs (ex. BSL) with special air pressurization requirements, provide gasketing behind faceplate. Refer to BSL guidelines for additional information.

- d. Multi-Outlet Wireways
 - Wireway installed at labs to be prewired using twist-on wire connectors (wire nuts), no “pinch connectors” or “butt splices”.
 - Dual Channel shall be utilized where power and high-volume low-voltage outlets are required. Dual channel shall also be provided to keep emergency and normal power outlet branch circuits separated.
 - e. Refer to Identification of Electrical Systems for labeling of receptacle and switch coverplates.
 - f. Cold Rooms:
 - All penetrations for devices in cold rooms shall be sealed air tight. Provide gasketing behind coverplate.
3. Color:
- a. Light switches, receptacles and associated cover plates shall be:
 - White or ivory (coordinate with Architect) for normal power branch circuits.
 - Red when connected to emergency power.
4. Related Sections
- a. Raceways, Fittings and Boxes
 - b. Lighting Controls
 - c. Identification of Electrical Systems

EQUIPMENT and PRODUCT REQUIREMENTS

1. Receptacles:
 - a. Approved Manufacturers:
 - Hubbell
 - b. Material:
 - NEMA 5-20R configuration unless otherwise required.
 - Heavy duty, specification grade and/or hospital grade duplex receptacles.
 - Ground Fault Current Interrupter (GFCI) Duplex Receptacles: Shall be provided with end-of-life indication and shall be self-test in accordance with UL 943.
2. Toggle Switches:
 - a. Approved Manufacturers:
 - Hubbell
 - b. Material:

- Toggle switches shall be Extra Heavy Duty, Industrial Grade, quiet operating type rated 120/277V, 20 amperes equal to Hubbell #HBL 1221 Series.
 - Refer to Lighting Controls Design Standard for Occupancy/Vacancy Sensors, Dimmers and Timer Switches,
3. Cover Plates:
 - a. Approved Manufacturer:
 - Hubbell High Abuse Nylon
 - b. Plastic Wall Plates (Thermoset) are not acceptable.
 - c. Stainless may be utilized in high-abuse locations.
 4. Multi-Outlet Pre-Wired Wireways
 - a. Approved Manufacturers:
 - Wiremold 4000 Series (Dual Channel)
 - Wiremold 3000 Series (Single Channel)
 - b. Material:
 - Labs, cold rooms and other wet areas: Brushed aluminum finish.
 - Offices: Steel, color-coordinated with Architect
 - Plastic Wireway is not allowed.
 5. Mounting:
 - a. Wall receptacles shall be mounted 18" above finished floor to center unless otherwise noted.
 - b. Wall switches shall be mounted 48" above finished floor to top unless otherwise noted.
 6. Testing:
 - a. Test wiring devices for proper polarity and ground continuity. Operate each operable device at least 6 times.
 - b. Test ground fault circuit interrupter operation with fault simulations according to manufacturer recommendations.

END OF SECTION

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