SECTION 26 27 26
WIRINGDEVICES

PART 1 - GENERAL

1.01 GENERAL REFERENCE

A. The work of this section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.

B. Coordinate the work with all other services affecting the work of this Section.

1.02 DESCRIPTION OF WORK

A. This Section to include all labour, materials, equipment, appliances and accessories necessary for the complete performance of all switches, socket outlets etc. (NOTE: ALL WIRING DEVICES SHALL BE SREWLESS TYPE) In accordance with the Specifications and Drawings.

1.03 RELATED WORK UNDER OTHER SECTIONS

A. Basic Electrical Materials and Methods

B. Wires and Cables

C. Raceways and boxes

D. Under floor Raceway Assemblies

1.04 APPLICABLE STANDARDS REFERRED IN THIS SECTION

A.	BS 5419	:	Fuse Switches and Switch Fuses.
B.	BS 88	:	HRC Fuses
C.	BS 4343	:	Industrial Plugs, Socket Outlets and Couplers for AC and DC Supplies.
D.	BS 1363	:	13 A Plugs, Switched and Unswitched Socket Outlets and Boxes.
E.	BS 4662	:	Boxes for Enclosure of Electrical Accessories.
F.	BS 5733	:	General Requirements for Electrical Accessories.
G.	BS 4177	:	Cooker Control Units Rated 30 Amp. and 45 Amp. 250 Volts single Phase Supply.

1.05 SUBMITTALS

A. Submit shop drawings, equipment list, relevant samples etc., as mentioned under Section 16010.

PART 2 - PRODUCTS

2.01 GENERAL

A. All individual items of materials shall be of the same make throughout the project unless specifically approved by the Engineer.

2.02 OUTLET BOXES

A. Outlet Boxes

1. Galvanized or sheradized one piece pressed steel, sizes and designs shall suit devices to be fitted.

B. Exterior Mounted Boxes

1. Totally sealed to ensure water tightness.

2.03 SWITCHES

A. Lighting Switches

1. To BS 3676

2. Grid fixing type rated 20A Amps. unless specified otherwise. The grid shall be provided with suitable earthing terminal.

3. Recessed with concealed conduit surface pattern elsewhere.

4. Quick make slow break type.

5. Single pole, double pole, one way or two way, as indicated.

B. Waterproof Switches

1. To be operated by means of a brass disc.

2. To be watertight and metal clad.

C. Switch Plates

1. Where two or more switches are grouped together and connected to the same phase, multi-gang devices and common plates shall be used.

2. Matt-chrome finished switch plates shall be used in all areas unless specified otherwise. The rocker shall be insulated with ivory finish.

D. Double Pole Switches

1. The double pole switches shall be with indication neon lamps and shall be rated 15 Amps. or 20 Amps. as specified.

2. The face plate shall be of matt-chrome and shall be engraved 'WATER HEATER', 'WATER COOLER' etc. as require.

2.04 SOCKET OUTLETS

A. General Purpose Socket Outlets

1. To BS 1363

2. 3 rectangular pin (2 P + E) shuttered, with combined switch, rated 13A, 250 V.

B. 15 A Socket Outlet

1. To BS 346.

2. 3 round pin (2 P + E) shuttered switched pattern complete with plug.

C. Weatherproof Sockets

1. 13 A Sockets : to BS 1363, 3 rectangular pins, switched type.

2. To be complete with weatherproof plugs.

3. Plugs for 13 Amps. sockets : fused type with single pole cartridge fuse link of same rating as plug.

4. Sockets and Plugs :

a. To have minimum IP 44 grade protection;

b. Housing parts : brass or pressure die-cast finished in grey hammered stove enamel;

c. Plugs :

1. Cable grips shall have rubber compression rings;

2. There shall be rubber gaskets between plug and socket to ensure weather tightness.

d. Sockets shall have screw on caps that close tight on socket when plug is not inserted.

D. Socket Outlet Plates

1. Matt-chrome finish in all areas unless specified otherwise readily identifiable.

2.05. Sockets 16 Amp and 32Amp Rating:

A. Sockets shall comply with BS 4343 and shall be switched.

B. Internal socket shall have minimum ingress protection of IP44 and IP65 for external sockets.

C. Sockets and plugs shall have polycarbonate housing.

D. Socket shall be complete with surface back base and shall be angled at approximately $45^{O.}$

E. Socket shall be complete with plugs.

2.06 PUSHBUTTONS

A. ON/OFF Pattern Pushbuttons for lighting control :

1. To have shrouded buttons coloured green for "ON", red for "OFF".

B. Operating Mechanism

1. To be contained in the device box.

2. Operating voltage shall be 240 V.

C. Multiple Pushbuttons

1. Where two or more buttons occur in one position they shall be contained in one case and each shall be appropriately labelled to indicate its functions.

2.07 DISCONNECT SWITCHES AND SWITCH FUSES

A. Generally :

1. To be metal clad with front operated handles interlocked with switch fuse case to prevent opening switch in the "ON" position.

B. Disconnect Switches or isolators

1. Same design as switch fuses, with solid copper links in place of fuses.

2. Single pole and neutral, or triple pole and neutral.

3. Ratings, as indicated.

2.08 JUNCTION, PULL AND TERMINAL BOXES

A. The junction box shall be completed with a terminal block suitable for connecting up to 10 sq.mm. copper conductor (phase, neutral and earth) and an all insulated moulded white cover plate with removal covers.

B. The cover plate shall be raised for connecting outgoing cable.

2.09 CEILING ROSES

A. Conforming to BS7001: 1988

B. Plug-in type suitable for loop in wiring with 2.5mm2 cables and rated 6A.

C. Ceiling plug to be provided with cord grip and the assembly to support 5Kg load.

PART - 3 EXECUTION

3.01 INSTALLATION OF OUTLET BOXES

A. Location of Boxes

1. Determine exact location of boxes on site and obtain the Engineer's approval before commencing installation.

2. Make allowance for overhead pipes, ducts, variations in arrangement, thickness of finish, window trim, panelling and other construction when locating boxes.

B. Mounting Heights.

1. Mount boxes as indicated or as approved by the Engineer.

2. Where mounting height is not shown or specified, obtain instructions.

3. Boxes for similar equipment : mount at uniform heights within same or similar areas.

C. Fixing :

1. Fix outlet boxes securely.

2. Fix exposed outlet boxes to permanent inserts or lead anchors with machine screws.

3.02 INSTALLATION OF SWITCHES

A. Lighting switches near door :

1. Located at the strike side of the door.

2. Plates shall be installed with all four edges in continuous contact with finished wall.

3. Plates shall be installed with an alignment tolerance of 1.5mm.

4. All switch assembly louver plates shall have their earthing terminal connected to the earth terminal attached to the switch box by an insulated 2.5 sq.mm protective conductor.

3.03 INSTALLATION OF CEILING ROSES

A. Plug in type ceiling rose shall be used to terminate the light point wiring.

B. Ceiling roses shall be fixed to the ceiling outlet boxes.

C. Flexible silicone wires from luminaire shall terminate inside the ceiling rose.

3.04 INSTALLATION OF JUNCTION, PULL AND TERMINAL BOXES

A. Generally :

1. Fix junction, pull and terminal boxes where indicated and where required to facilitate pulling of wires and cables and connection of future appliances.

2. Locate boxes as inconspicuously as possible, but accessible after work is completed.

B. Pull Boxes

1. Fix at maximum 10 m. spacing and to limit the number of bends in conduit to not more than two 90 deg. bends.

3.05 TESTING

A. Test all switches, socket outlets etc., for correct polarity and continuity of conductors in the presence of and to the entire satisfaction of the Engineer.

B. Carry out live phase to earth loop impedance tests at all switches and socket outlets with an approved earth loop impedance tester to the entire satisfaction of the Engineer. Ensure that all device plates have satisfactory earth continuity to the protective conductor system.

C. Test all 13 Amp. socket outlets for instantaneous tripping of associated distribution board current operated earth leakage circuit breaker using testing equipment, approved by the Engineer.

END OF SECTION