Electrical Installations

Generally

The Contractor is referred to the Conditions of Contract and Preliminaries and to make allowance for due and proper compliance therewith

All Electrical Work must be carried out by a member of the National Inspection Council for Electrical Installation Contracting (N.I.C.E.I.C.) and be enrolled as an Approved Contractor.

The Contractor must allow in his price for inspecting each property, before work commences, to agree the electrical layout required.

Prices for stripping out existing wiring, fittings and accessories shall include for making good all work disturbed in doing so including testing of any relevant modified circuits

The whole of the Electrical Work shall be guaranteed for twelve months against faulty materials and workmanship, fair wear and tear excepted. Such a guarantee to date from the day of handover and the Contractor is to reinstate at his own expense to the satisfaction of the Contract Administrator any defective work discovered within the period of guarantee. The Contractor should also provide their 24hour 7 Day a week Call-out contact details for the guarantee period.

Supervisor

The Contractor is to appoint a competent Supervisor to whom instructions may be given by the Contract Administrator. The Supervisor should be available to attend weekly Electrical Q.A. Inspections.

Regulations

The whole of the work to be carried out under this specification is to comply with the current edition of the B.S.7671 I.E.E. Wiring Regulations and with the relevant Parts of the Building Regulations, to the satisfaction of the Contract Administrator, including inspection, testing and providing the appropriate Electrical Installation Certificates. Test Certification should include a paper and/or a pdf file. A duplicate Building Regulations Compliance Certificate should also be provided. All works must be in accordance with all current Health & Safety directives.

Cables

The Contractor should note that the practice of running cables within cavities is expressively forbidden. All cables must be in chases or, on agreement with the Contract Administrator, in surface-mounted conduits.

All wiring is to be carried out in the PVC insulated PVC sheathed 300/500 volt grade cable to BS.6004.

Lighting/Fan Circuits 1.5 mm2 (to BS.6004 Table 5)

Conduits

Wiring to switches in unplastered areas shall be run in a rigid PVC conduit to comply with BS.4607 Part 1.

Main Protective Bonding Conductors – The main earth terminal shall be bonded to the main incoming services as near as possible to their entry into the building by separate main protective bonding conductors, which are to be made identifiable at the customer unit.

Electrical Installations (Cont’d)

The main services which will require bonding could include the following:-

Main Water Pipes.

Main Gas Pipes

Other Service Pipes

Exposed Structural Steelwork

Central Heating Risers

The connection to the gas pipe shall be made on the consumer’s side of the gas meter; unused gas service pipes shall not be bonded. Water service main protective bonding conductor shall be accessible for inspection purposes.

The minimum size of the Main Protective Bonding Conductors up to 100 amp capacity shall be 10mm2 and connection should be made using a Crimp Lug and tool

Supplementary Equipotential Bonding – The purpose of supplementary equipotential bonding is to reduce the voltage between the various exposed –conductive parts and extraneous conductive parts of a location during a fault to earth.

Continuity tests shall be made to ensure a good connection between the exposed conductive parts and any other extraneous parts. If the resistance exceeds 0.05 Ohms then further tests would be needed to establish if they required bonding.

Supplementary Equipotential Bonding: Other Situations – In the kitchen and at the boiler location a 4mm2 bond shall be made between/across all hot and cold water pipes, gas pipes and continuity tests applied to ensure a low resistance connection (under 0.05 Ohms) exists.

In all other situations where extraneous conductive parts are simultaneously accessible with other conductive parts, e.g. tank cupboards, metal bath, etc, tests shall be carried out to verify a low resistance (under 0.5 Ohms) connection exists.

Additional 4mm2 supplementary bonds shall be installed where the test is unsatisfactory or if the existing connection is to be considered unreliable by the Electrical Services Manager or their representative.

**Cables, Routes and Conductors**

Cable buried in plaster or which may be subject to mechanical injury shall be protected by a 30mA RCD/RCBO and shall run vertically or horizontally, but not diagonally with zonal concept of cable runs.

All fixing screws shall be fixed into correct sizes of approved proprietary “plugs” set into pre- drilled holes. Wood plugs shall not be used.

Conduits or cables are to be fixed at least 150mm clear of any pipe carrying hot water or gas. Should this be impractical the conduit or cable is to be protected in a suitable manner and each and every case is to be approved by the Electrical Services Manager or their representative.

When the cables pass through joists they shall pass through holes drilled at least 50mm from the top or bottom of the joist. If existing notches are used cables shall be protected by purpose made metal protectors. No cables shall be buried under concrete floors.

All circuit connections must be made at switches, ceiling roses, sockets or junction boxes. Junction boxes are to be of insulated pattern provided with moulded-in terminals and should be readily accessible; the location should be noted on the relevant test certification.

All cable entries into metal boxes of any description shall be through suitable rubber grommets.

Electrical Installations (Cont’d)

**Circuits**

Lighting Circuits incorporating Extract Fans

Lighting Circuits shall incorporate the extract fans

The lighting/fan circuits shall be carried out by means of 1.5mm2 twin and earth PVC insulated and sheathed cable, except in wiring between two way switches, where three core cable and earth may be used. Where two lighting circuits are used, the supply for the upper landing light shall be taken from the upper floor. Fans are to be supplied from the local lighting circuit via an un-switched fused spur connection unit mounted at ceiling height incorporating a 3 amp fuse.

Wiring, Fittings and Accessories shall be those manufactured by Electrium Sales Limited, Commercial Centre, Lakeside Plaza, Walkmill Lane, Bridgtown, Cannock WS11 0XE.

Fused Connection Units Extract Fans fed via 13 amp un-switched with neon indicator fused connection unit Crabtree 4828/3. Mounting boxes shall be 25mm steel box or 47mm dry lining box as appropriate.

Extract Fans shall be the Filterless Extract Fan as manufactured by Envirovent Ltd, Envirovent House, Hornbeam Business Park, Harrogate, HG2 8PA. Model EFHT2S-230.The Contract Administrator may request the installation of the Ceiling Mounted Model EFHTCM-230 or the Wireless Model EFHT2S-230WL in the event of location restrictions.

Prices for Installing Electrical Circuits shall include for all cables, conduits, fittings and accessories as well as the marking, cutting and making good of all holes, mortises, chases and the like required.

To include the provision of a label at the Distribution Board, detailing the Extract Fan(s) Installation Date.