

Electrical Specification

Ancoats Gardens, 30 Bendix Street, Manchester, M4 5GH

EV Chargers
Unit A1/A2
The Rock Business Park
Washington
Pulborough
RH20 3GR

Scope of Works:

The works comprise of the supply of new electrical services for the new EVSE Installation to the car park. Works will consist of the supply and installation of a new 7 TPN Way Distribution Board with Surge protection to a 72KVA supply provided by Client, Additional 225mm & 300mm Tray containment to supplement existing, and provision and installation of 8no CTEK 7.4KW Dual outlet Charge storm Chargers and supply wiring, Comms equipment, Testing & Commissioning.

Installation, testing and commissioning shall all be compliant with IEE BS7671 2018-A2-2022 & The Electric Vehicle Charging Equipment Installation Code Of Practice 4th Edition.

Containment:

All galvanised Cable Trays shall be manufactured from pre-galvanised mild steel, to BS EN 10142 : 2000 and BS EN 10143 : 2006 with a minimum coating weight of 275g/m². Cable tray and cable fittings shall be fully perforated, slot sizes shall be 20mm x 7mm (or similar), running parallel to the length of the cable tray and 13.5mm by 11mm (or similar) running perpendicular to the length of the cable tray and shall be:

Legrand SRF -Heavy Duty in hot dipped galvanised finish, tray depth will be 50mm.

Sizes will be 225mm for the DATA containment and 300mm for the LV Tray of which there are 23 lengths of each. The Tray will be supported via prefabricated trapeze support hangers with M10 threaded rods and fixed to the buildings fabric by means of expansion type M8 drop in anchors and M8 steel bolts.

Tray will be installed using factory formed bends and tees and joined by the means of factory couplers bolted to each section in accordance with manufacturers recommendations, where tray has been cut open ends will be painted with zinc rich paint to BS4652.

Distribution:

A Proteus BX8S125T12 distribution will be fitted in the Basement Plant room, distribution board will be securely fitted to the buildings fabric with M8 Rawl bolts, Distribution board will have a 125A switch disconnector incoming and a Type 1+2 combined surge arrester for TN-S/TNC-S & TT Systems and will comply with BS EN 6143-90-1&3, the SPD will be a 50KA item, circuit protection for the chargers will consist of 63A single pole type C miniature circuit breakers to allow maximum demand for the chargers, a 10A single pole miniature circuit will provide the overcurrent protection for the comms supply circuit, factory blanking pieces will occupy all the spare ways, Distribution and associated equipment will be installed in accordance with manufactures recommendations, distribution board will sit on a 150mm x 150mm steel trunking and be bushed and lock-ringed for cable entries.

Distribution board and circuits shall be appropriately labelled in compliance with IEE BS7671 2018-A2-2022.

Cabling:

Charger supply cables will be XLPE insulated, PVC Bedded Steel Wire Armoured, PVC Sheathed 16.0mm 3-core cabling to BS5647, this will be glanded at distribution board using Niglon CW LSF Gland packs for use with LSF cables and constructed to BS6121, 25mm compression glands will be used at the charger end with heat shrink used to cover armouring.

Communications cabling will be provided by Emitex Cat5E twisted pair UTP External Duct cabling, this is duct grade, UV resistant and weather proof, it is also double insulated for additional mechanical protection.

Cables will transit on the new containment and be secured with a mixture of Nylon/PVC & stainless steel cable ties.

Chargers:

The 7.4KW CTEK Chargestorm chargers will have a built in MID approved energy meter, integral RCBO protection with DC leakage detection

Testing and commissioning

The EVSE installation will be tested to the IEE BS7671 2018-A2-2022 standards in compliance with Guidance note 3, charger units will be electrically and functionally tested in accordance with EVC standards.

Upon completion Electrical installation certificate together with schedules of inspections and schedules of tests shall be given to client