Alpha
Consulting Engineers Pte Ltd

FEEDBACK REPORT FORM

Ref No: 172-241115 (S)

To: CCG From: LFY

Job No./Project: Master specifications for Electrical Installation – Tenancy Specs *(where applicable)*

Source of feedback: LFY – Review of master specifications

Scope of Feedback: * [ ] Quality [ ] Environmental [ ] Administrative [ ] Contractual
[ ] Technical [X] Specification [ ] Others

Section A : Problem & Cause

Cable specifications are missing

Section B : Mitigating Action Taken, if any

NIL

Section C : Suggested Corrective Action

To insert cable specifications – see attached

Section D : Approved Corrective Action

Document Affected * : [X] Yes [ ] No Affected Document : Electrical Mosh Spec

Approved By : Ly. Date :

Section E : Action

Action By : FTY

Targeted Completion : End Nov 2015

Actual Completion : 24 November 2015 Verified By : hm NA 24/11

** Mark [X] where appropriate*

Distribution:

↳ By email to all staff

A brass earthing terminal shall be provided complete with brass washers, nuts and cable lug. A brass earthing bar similar to the neutral bar specified above shall be provided and shall be linked to the earthing terminal.

A schedule of circuits shall be provided in printed form on paper or card mounted behind transparent plastic on the inside of the hinged door.

1.14 PVC & PVC/PVC Cables

PVC & PVC/PVC cables and PVC/PVC flexible cords shall be of 450/750 volt grade comprising high conductivity stranded copper conductors of sizes shown on the Specification Drawings, to BS 6360, PVC insulated and PVC sheathed to SS 79 or BS 6746 and manufactured to SS 358 for PVC insulated, non-sheathed cables and to IEC 60502 for PVC insulated PVC sheathed cables. Insulant colours shall be in accordance with the current edition of Singapore Standard CP 5: Code of Practice for Electrical Installations.

PVC cables shall be routed in conduits and/or trunkings.

PVC/PVC cables shall be routed at high level on proprietary make horizontal cable trays or ladders and support system similar to UNISTRUT or equivalent system. All vertical runs including cable to control panels etc. shall be secured on cable ladder system similar to BICC VANTRUNK or equivalent system. For horizontal runs, PVC/PVC cables shall be secured neatly on the cable trays or ladders at close intervals by means of moulded polythene cleats similar to BICC 'Telcleat' or other equivalent whereas claw cleats shall be used for securing vertical cables. Fixing shall be made with rawlbolts or other patent fixing devices.

PVC and PVC/PVC cables shall be terminated in suitable sizes tinned copper compression connectors to relevant BS standard requirements.

1.15 XLPE and XLPE/PVC Cables

XLPE and XLPE/PVC cables shall be of 600/1000 volt grade comprising high conductivity stranded copper conductors, XLPE insulated, manufactured and tested in accordance with SS 324 or BS 6469 and BS 6899. The PVC sheathed for XLPE/PVC cables shall be in accordance to BS 6746.

For XLPE and XLPE/PVC cables, the installation method and details shall be as specified elsewhere in this Specification for PVC and PVC/PVC cables respectively.

1.16 FR Cables

Fire resistant (FR) cables shall be of 600/1000 volt grade comprising high conductivity copper conductors, insulated with an extruded thermoset flame retardant and fire resistant, moisture proof compound [silicon rubber or special ethylene propylene rubber (EPR)] and overlapped with a copolymer coated aluminium strip extruded with a special flame retardant PVC outer jacket. The cables shall be tested to comply with IEC 60331 Specification for fire resisting characteristics of the cables and Category CWZ of Singapore Standard SS 299 Specification For Fire Resistant Cable Part 1: Performance Requirement For Cables Required To Maintain Circuit Integrity Under Fire Conditions.

For cinemas, theatres, computer centres, medical clinics, hospitals, halogen-free, low smoke and flame retardant, fire resistant cables complying with IEC 60332-3 (minimum Category B), IEC 60754-1 & 2, and SS 299 Category CWZ shall be used. Test certificates from relevant testing authorities shall be submitted when requested by the Architect.

FR cables shall be installed in accordance with the maker's recommendations and instructions. FR cables shall be run on proprietary make cable trays, conduits, trunkings or cable ladders depending on the sizes of the cables.

All installation accessories shall be of manufacturer's standard products. Cable glands shall be of fire rating equal to the cable. The bending radius of the cables measured from the inside of the bend shall be not less than eight times the diameter of the cable.