

C&G 4467 HPD LEVEL 4 UNIT 8.

ASSIGNMENT 1.

A new building is to be built onto a factory complex. The new building is to be provided with a 400/230volt supply and is situated 30 metres away from the main switchroom. A 40 metre 4 core 90°C thermosetting insulated armoured cable is to be installed on a perforated cable tray along with 4 other sub main cables, all of which meet the spacing requirements of BS7671, with protection provided by BS 88-2 fuses. The value of Z_e for the main building is 0.03Ω and an ambient temperature of 25°C can be assumed throughout.

The earthing supply system is TN-S

All wiring internal to the new building will be 70°C general purpose PVC singles installed in surface mounted metal conduits except for the wiring to the 2 x 3 phase machines which will be wired in 90°C thermosetting insulated SWA cables, which are clipped direct.

Circuit protection to all final circuits will be provided by BSEN 60898 circuit breakers.

The connected load within the new building comprises of:-

- 6 x 3kW convector heaters,
- 4 x 1kW oil filled radiators,
- 2 x 3 kW immersion heaters,
- 1 x 6kW cooker,
- 5 x 32A radial socket outlet circuits,
- 2 x 1.5kW discharge lighting circuits,
- 1 x 2kW outside lighting circuit (SON fittings),
- 2 x 3.5 kW 3phase machines at 0.8 power factor.