G003+ G004 / General wiring. ZIP

WATER HEATER

MAXIMUM OPERATING PRESSURE

CAPACITY IN LITRES

SUPPLY VOLTAGE

NUMBER OF PHASES

POWER INPUT

COOKING APPLIANCES

Supply VOLTAGE

NUMBER OF PHASES

TOTAL POWER INPUT.

MOTORS

FULL LOAD SPEED IN RPM

FULL LOAD POWER OUT PUT

NUMBER OF PHASES

SUPPLY VOLTAGE

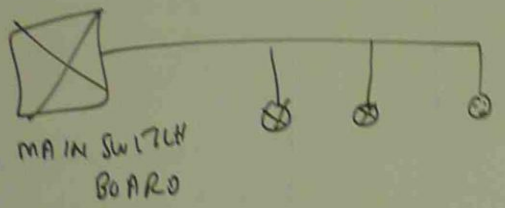
FULL LOAD CURRENT.

LOCATION

SWITCH BOARDS SHOULD BE INSTALLED IN A SUITABLE DRY WELL VENTILATED WHERE ACCESS IS NOT OBSTRUCTED.

CLAUSE 2.16.11.1 (CONTROL)

THE SUPPLY TO EVERY INSTALLATION SHALL BE CONTROLLED ON THE MAIN SWITCH BOARD BY MAIN ISOLATING SWITCH WHICH SHALL CONTROL THE WHOLE OF THE INSTALLATION.



CLAUSE 2.11.6.1.2 NO. OF MAIN SWITCHES

THE NUMBER OF MAIN SWITCHES INSTALLED AT ANY MAIN SWITCH BOARD SHALL NOT EXCEED SIX.

ACCESS TO MAIN SWITCHES

MAIN SWITCHES SHALL BE READILY ACCESSIBLE AND THE MEAN OF OPERATING SUCH SWITCH SHALL NOT BE MORE THAN 2m ABOUE THE GROUND, FLOOR OR PLATFORM.

LOCATION of MAIN SWITCH BOARD CLAUSE 2.21.1.1.2

GENERAL

THE MAIN SWITCH BOARD SHALL NOT BE LOCATED NOT MORE THAN ONE FLOOR ABOUE (OR) BELOW AN ENTRANCE TO BUILDING.

MULTIPLE INSTALLATION

IN MULTIPLE INSTALLATIONS, THE MAIN SWITCH BOARD SHALL NOT BE LOCATED WITHIN ANY DOMESTIC INSTALLATION.

PROHIBITED AND RESTRICTED LOCATIONS

HEIGHT ABOVE GROUND, FLOOR, PLATFORM

(i) WITHIN 1.2 cm of GROUND, FLOOR (OR) PLATFORM

IF THE SWITCH BOARD IS INSTALLED WITHIN 1.2 cm of THE GROUND FLOOR (OR) PLAT FORM, IT SHALL MEET THE FOLLOWING REQUIREMENTS.

(a) BE COMPLETELY ENCLOSED BY THE DOOR

(b) CONTAIN ONLY EQUIPMENTS WHERE LIVE PARTS ARE ENCLOSED IN HOUSING.

(c) BE LOCATED IN AN AREA ACCESSIBLE ONLY TO AUTHORISED PERSONS.

SWITCH BOARDS SHALL NOT BE INSTALLED WITHIN A FIRE ISOLATED STAIRWAYS, PASSAGE WAYS, RAMP (OR) SIMILAR MEANS OF EMERGY EXIT FROM BUILDING.

CLAUSE 2.21.1.5 SWITCH BOARDS WITH EXPOSED LIVE PARTS

SWITCH BOARDS HAVING EXPOSED LIVE PARTS SHALL BE INSTALLED IN AREA WHICH ARE ACCESSIBLE ONLY TO AUTHORISED PERSON AND WHICH ARE PROVIDED WITH FACILITIES FOR LOCKING.

SWITCH BOARD WIRING

GENERAL — SWITCH BOARD WIRING SHALL BE DESIGNED TO WITHSTAND ANY THERMAL, MAGNETIC EFFECTS ON THE CONDUCTORS.

- BARE CONDUCTORS SHALL BE RUN AT THE BACK OF INSULATING PANELS
- UNSHEATHED CABLES SHALL ONLY BE USED WITH INSULATED PANEL (OR) EARTHED METAL PANELS.
- SHEATED CABLES MAY BE USED FOR CONNECTION OF SELF CONTAINED SWITCH GEAR ON SWITCH BOARD PANEL.

CLAUSE 2.21.1.9 SWITCH BOARDS WITH EXPOSED LIVE PARTS

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FIRE

SIMILAR

BEHIND SWITCHES PANEL

2.23.7.3

FIXED PANELS

WHERE WIRING IS LOCATED BEHIND A FIXED SWITCH BOARD PANEL, THERE SHALL BE SUFFICIENT SPACE BEHIND THE PANEL TO ALLOW MANIPULATION OF WIRING.

- SUFFICIENT SLACK SHALL BE PROVIDED ON ALL CONDUCTORS CONNECTING EQUIPMENT ON THE PANEL TO THE FIXED WIRING
- ALL CONDUCTORS SHOULD BE FIRMLY FASTENED
- WIRING SHALL BE ARRANGED SO THAT UNDUE STRESS ON CONDUCTOR WILL NOT OCCUR.

OTHER POWER WIRING ACCESSORIES FOR SWITCH BOARD.

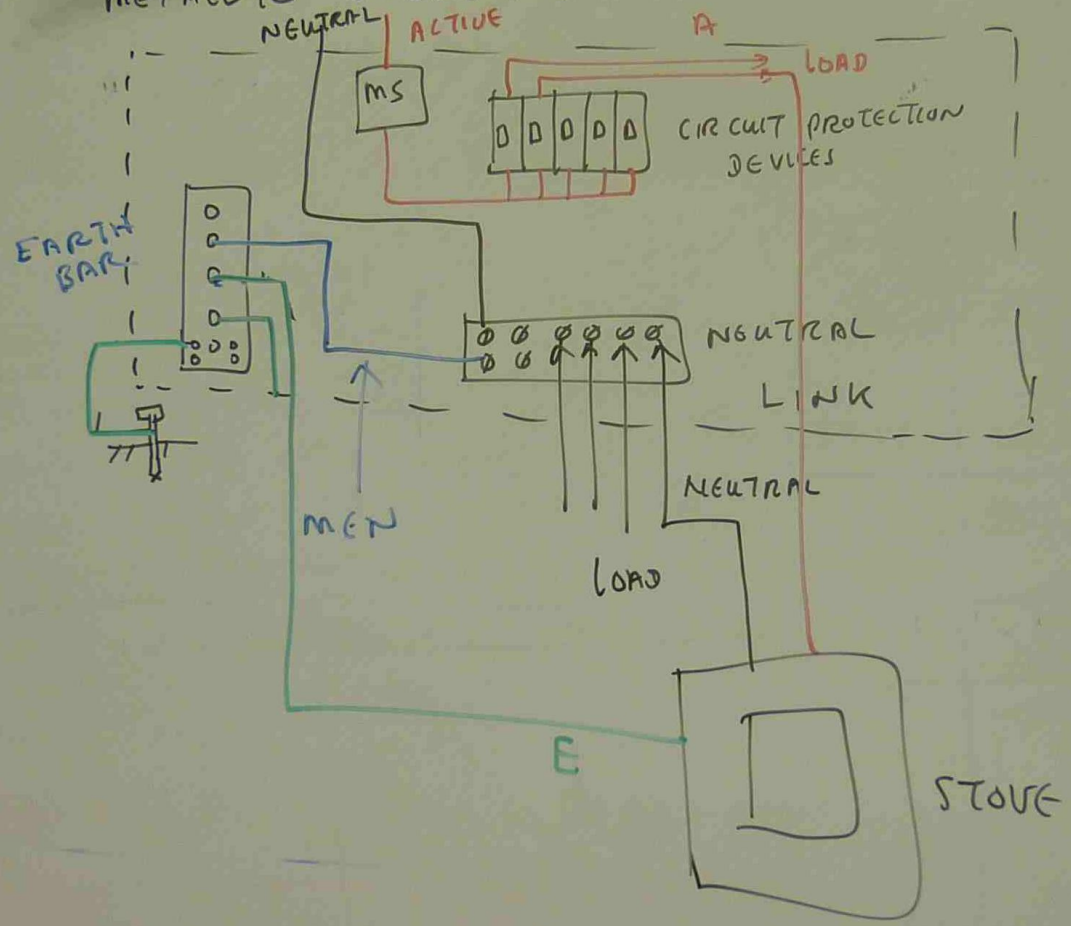
- RIGID P.V.C CONDUIT
- FLEXIBLE P.V.C CONDUIT
- CORRUGATED P.V.C CONDUIT
- TRUNKING (OR) THRONGHING
- METALLIC ENCLOSURE

TO WITHSTAND HIGH TEMPERATURE
REDUCE THE RISK OF FIRE

SWA | MIMS CABLES ARE
UTILIZED FOR HIGH TEMPERATURE.

Elect: INSTALLATION PROTECTION METHOD DEVICE. ZIP

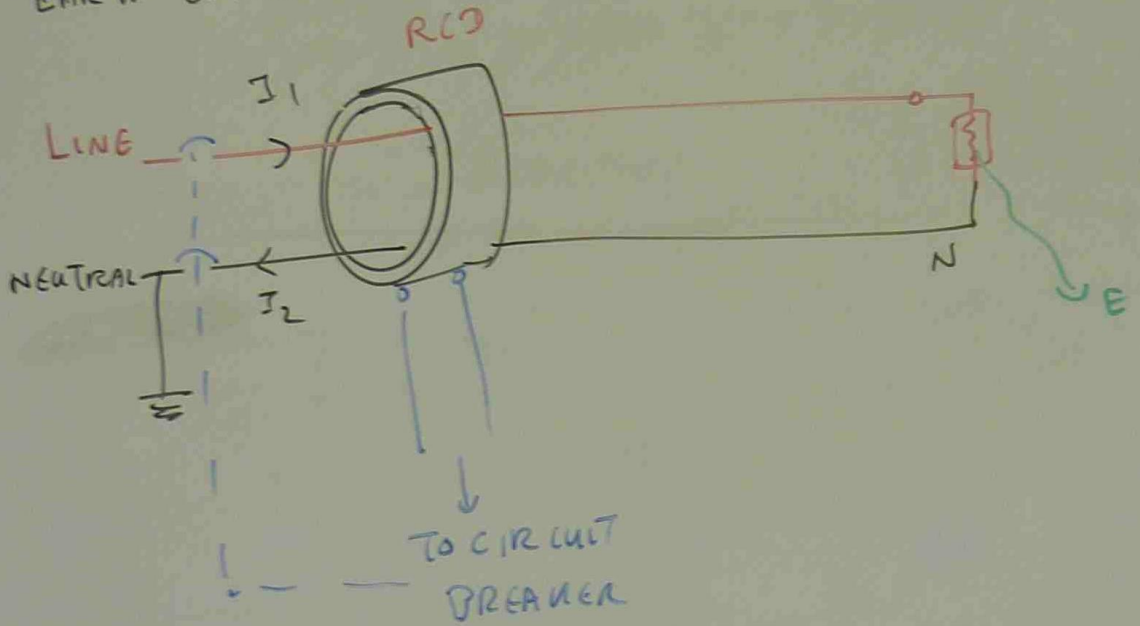
PROTECTIVE EARTHING SYSTEM NEEDS TO BE PROVIDED FOR METALLIC ENCLOSURES.



CIRCUIT PROTECTION

OVER CURRENT / SHORT CIR CUIT PROTECTION ⟶ FUSE / CIRCUIT BREAKER

EARTH LEAKAGE CURRENT — RCD (RESIDUAL CURRENT DEVICE)

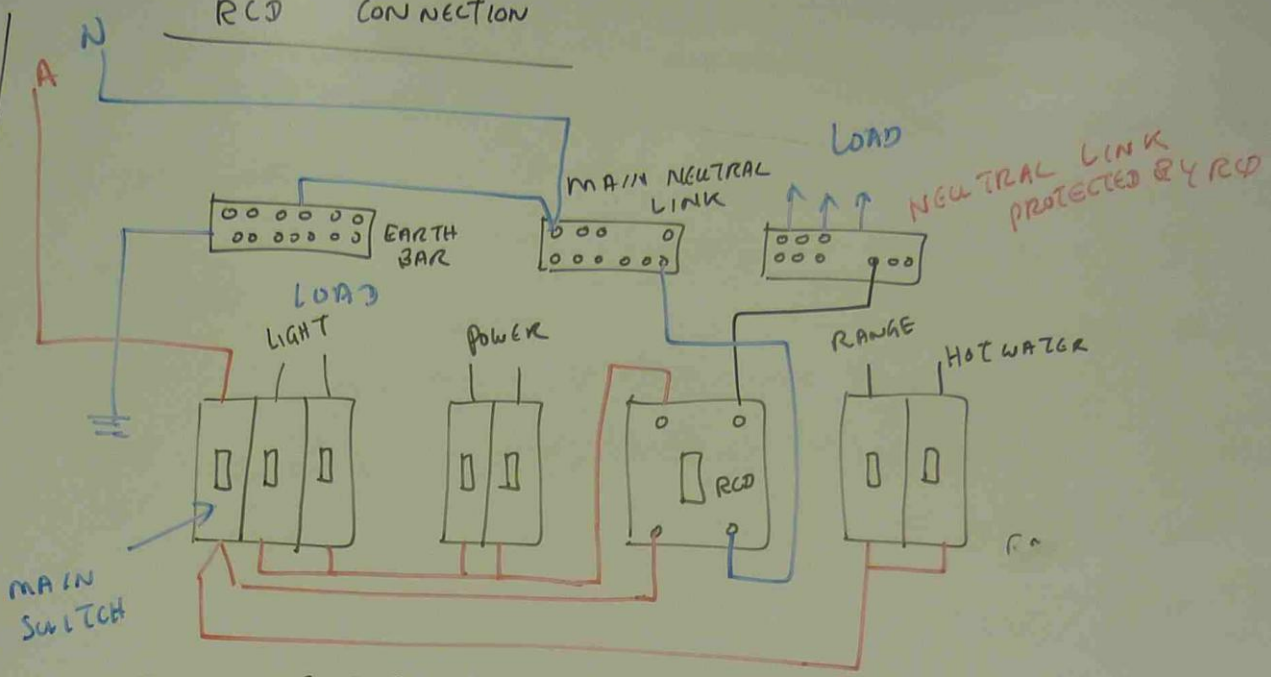


OPERATION

AT NORMAL, $I_1 = I_2$, RCD DOES NOT TRIP

AT EARTH FAULT $I_1 \neq I_2$, DIFFERENCE IN I_1 & I_2 TRIPS OFF RCD.

RCD CONNECTION



Types of RCD

ELECTRO MECHANICAL, ELECTRONIC, TIME DELAY

CATEGORY (I) $I_{RES} < 10mA$

(II) $10mA < I_{Res} < 30mA$

(III) $30mA < I_{Res} < 300mA$

(IV) WITH TIME DELAY.