

# WIRING RULE AS 3000

## PART (1)

SCOPE, APPLICATION  
FUNDAMENTAL PRINCIPLE

## PART (2)

INSTALLATION  
PRACTICE

## STRUCTURE

### SECTION (1)

SCOPE, APPLICATION, REFERENCE  
DOCUMENT  
DEFINITION, FUNDAMENTAL PRINCIPLE  
DESIGN ELECTRICAL INSTALLATION  
VERIFICATION, COMPLIANCE

### SECTION 2 → 8

GENERAL ARRANGEMENT  
CONTROL, PROTECTION  
SELECTION, INSTALLATION  
OF APPLIANCES, ACCESSORIES

EARTHING ARRANGEMENT

EARTHING CONDUCTOR

DAMPING

SPECIAL VERIFICATION

### APPENDICES

REFERENCE

CIRCUIT PROTECTION

CIRCUIT ARRANGEMENT

SURGE PROTECTION

## SECTION (B)

### VERIFICATION

COMPLIANCE TESTING → AS/NZS 3017

PERIODIC INSPECTION → AS/NZS 3019

CONTINUITY OF EARTHING

SYSTEM →

MINIMUM EARTH RESISTANCE VALUE

TABLE 8.2

INSULATION — 8.3.6

## SECTION (G) DAMP SITUATION

CLASSIFICATION ZONE → PROHIBIT SOCKET OUTLET.

6007

UNDERGROUND WIRING SYSTEM

AS 3000:2007

SUITABILITY & PROTECTION (3.11.1)

CLASSIFICATION / ARRANGEMENT (3.11.2 → 3.11.3)

INSTALLATION REQUIREMENT (3.11.4)

SPACING FROM OTHER UG SERVICES (3.11.5)

## AERIAL CONDUCTOR (3.12)

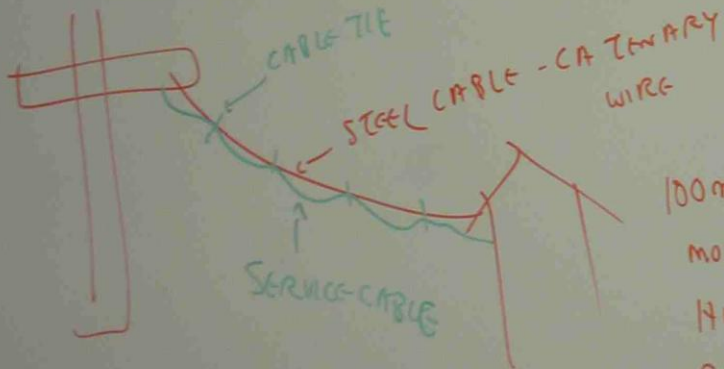
### CLEARANCE

VEHICLE - 4.6m

ACCESSIBLE ROOF - BARE - 3.7m

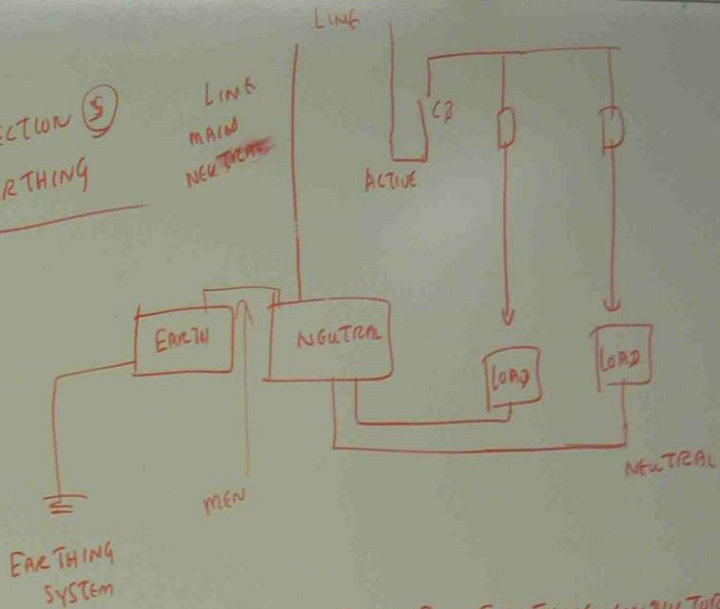
NEUTRAL - 2.7m  
SCREENED

### CATENARY SYSTEM



100mm from  
MOVING (OR)  
HIGH TEMPERATURE  
EQUIPMENTS IN DOOR

### SECTION (S) EARTHING



### S. 3.3 EARTHING CONDUCTOR SIZE

#### TABLE S.1

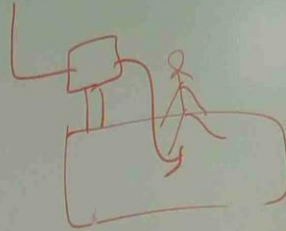
EARTHING  
CONDUCTOR = AT LEAST 25% OF  
C.SA TOTAL ACTIVE C.SA

(S. 3.3.1.2)



## Section (4)

### SELECTION & INSTALLATION OF APPLIANCES & ACCESSORIES



- PROTECTION AGAINST THERMAL EFFECT
- SOCKET OUTLETS
- LIGHTING EQUIPMENTS
- SMOKE DETECTOR
- COOKING APPLIANCES
- HEATERS

4.1 → 4.9

HEATING CABLES  
CONVERTERS  
MOTORS  
TRANSFORMERS  
BATTERIES

4.10 → 4.17

### SOCKET OUTLET

SHALL NOT BE LOCATED WHERE THE WITHDRAWAL OF A PLUG IS RESTRICTED BY A PERMANENT FIXTURE (OR) FITTING.

### LAMP HOLDER

1.8 m ABOVE FLOOR

GUARD FOR LAMP / HOLDER

(4.5.1-1)

### MOTOR

STARTING / STOPPING

EMERGENCY STOPPING

MECHANICAL MAINTENANCE

4.13.1-1

G007

- AS 3000: 2007 OVERVIEW

→ AS 3000 - AS3008 Tables Extracts - ZIP

MAXIMUM DEMAND

4

Pb DETERMINE THE MAXIMUM DEMAND OF A SINGLE DOMESTIC ELECTRICAL INSTALLATION SUPPLIED AT SINGLE PHASE WITH THE FOLLOWING LOADS:

24 LIGHTING POINTS

100m LIGHTING TRACK

9 - 10A SINGLE SOCKET OUTLETS

8 - 10A DOUBLE SOCKET OUTLETS

1 - 50W EXHAUST FAN

1 - 1000W STRIP HEATER

1 - 15A SOCKET OUTLET

1 - 10kW RANGE

1 - 4.8kW WATER HEATER

1 - 3kW TENNIS COURT LIGHTING.

(a)

24 LIGHT POINTS

TABLE C1 Load Group A(i) - LIGHT = 24 pt

LIGHTING TRACK

FOOT NOTE (d)  $2 \frac{pt}{m} \times 100m \rightarrow 20pt$

EXHAUST FAN \_\_\_\_\_ 1

45 pt

TABLE C1 column A(i)

FIRST 20 pt  $\rightarrow$  3A

SECOND 20 pt  $\rightarrow$  2A

45pt THIRD 5pt

EVERY 3<sup>rd</sup> 20pt  $\rightarrow$  2A

7A LOAD (i)

TOTAL LOAD FOR

LIGHTING POINTS. ~~XX~~

(b) TENNIS COURT LIGHTING

3KW TENNIS COURT LIGHTING → OUT DOOR LIGHTING EXCEEDING 1000W

75% CONNECTED LOAD

0.75 x  $\frac{3000 \text{ WATT}}{240 \text{ V}}$  = 9.4 A

(c) SOCKET OUTLET POINTS

9 x 10A SINGLE SOCKET OUTLET = 9 pt

8 x 10A DOUBLE SOCKET OUTLET = 8 x 2 → 16 pt

STRIP HEATER → 1 pt

26 pt.

LOAD GROUP B(i)

10A for first 1 → 20 pt

ADD 5A FOR EACH ADDITIONAL 20 pt

TOTAL 20 pt = 10 + 5 = 15A

(d) 15A SOCKET OUTLET  
LOAD GROUP B(ii)

1 x 15A SOCKET OUTLET → 10A

(e) 10KW RANGE

LOAD GROUP (c) → 50% CONNECTED LOAD

0.5 x  $\frac{10 \times 10^3}{240}$  = 20.8A

(f) 4.8 kW WATER HEATER  
STORAGE HEATER

LOAD GROUP (E)

FULL LOAD =  $\frac{4.8 \times 10^3}{240}$  = 20A



(d) 15A SOCKET OUTLET  
LOAD GROUP B(ii)

1 x 15A SOCKET OUTLET → 10A ✘

(e) 10kW RANGE

LOAD GROUP (C) → 50%  
CONNECTED  
LOAD

$$0.5 \times \frac{10 \times 10^3}{240} = 20.8A \quad \text{✘}$$

(f) 4.8 kW WATER HEATER  
STORAGE HEATER

LOAD GROUP (E)

$$\text{Full load} = \frac{4.8 \times 10^3}{240} = 20A \quad \text{✘}$$

MAXIMUM DEMAND OF ALL LOADS = 7 + 9.4 + 15 + 10 + 20.8 + 20  
(a) (b) (c) (d) (e) + (f)

$$= \underline{\underline{82.2 \text{ Amp}}}$$