

Q007

AS 3000:2007 OVERVIEW

→ AS 3000 - AS 3008 Tables Extract, ZIP

Pb ② DETERMINE THE MAXIMUM DEMAND
OF THE HEAVIEST LOADED PHASE IN A
DOMESTIC ELECTRICAL INSTALLATION
COMPRISING:-

26 LIGHTING POINTS

24 x 10 A SINGLE SOCKET OUTLETS

1 x 15 A SOCKET OUTLET

1 x 6.6 kW RANGE

1 x 4 kW AIR CONDITIONING UNIT

1 x 12.96 kW INSTANTANEOUS
WATER HEATER

1 x 3.6 kW CLOTH DRYER

AND ARRANGED FOR CONNECTION ACROSS A
3 ϕ SUPPLY AS FOLLOWS:-

RED	WHITE	BLUE
	15 x 10 A SOCKET OUTLET	26 LIGHT 4 x 10 A SOCKET OUTLETS
15 A SOCKET OUTLET	5 kW HOT PLATE	6.6 kW OVEN
5 kW HOT PLATE	4.3 kW INSTANTANEOUS WATER HEATER	4.3 kW INSTANTANEOUS WATER HEATER
4 kW AIR CON		
4.3 kW INSTANTANEOUS WATER HEATER	3.6 kW CLOTH DRYER	

EQUIPMENT	LOAD GROUP	COLUMN	RED (A)	WHITE (A)	BLUE (A)
<u>LIGHTING</u> 3A for 1 → 20 ft 2A for additional 20 ft $3 + 2 = 5A$	A (1)	2			→ 5 A
<u>10A SOCKET OUTLET</u> 15 No. in WHITE PHASE <u>10A FOR FIRST 20 FT</u> 9 No. in BLUE PHASE <u>10A FOR FIRST 20 FT</u>	B (1)	2		→ 10 A	→ 10 A
<u>RANGE</u> 50% of connected load $0.5 \times \frac{5 \times 1000}{240} = 10.4A$ $0.5 \times \frac{6.6 \times 1000}{240} = 13.7$	C	2	→ 10.4 A	→ 10.4 A	→ 13.7 A
<u>4 kW AIR COND</u> $75\% \text{ load} = 0.75 \times \frac{4000}{240} = 12.5A$	D	2	→ 12.5 A		
<u>WATER HEATER 33.3 kW</u> $0.75 \times \frac{4.2 \times 1000}{240} = 7.5$			→ 7.5	7.5	→ 7.5

EQUIPMENTS	LOAD GROUP	COLUMN	RED (A)	WHITE (A)	BLUE (A)
CLOTH DRYER 3.6 KW	C	2			
LAUNDRY 50% LOAD $0.5 \times \frac{3.6 \times 10^3}{240} = 7.5A$				7.5	
TOTAL			38.9A	33.9A	34.7A

HIGHEST LOAD (RED) = 38.9A
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