

LOAD CALCULATIONS FOR "PANEL CP1"
BASED ON THE 2026 NEC

	L1	L2
CALCULATED LOAD - NEC 215	26,900 VA	26,040 VA
CALCULATED LOAD WITH DEMAND FACTORS		
GENERAL LOAD	2,800 VA	1,400 VA
RECEPTACLE LOAD - NEC TABLE 120.47		
1ST 10,000W	4,545 VA	5,455 VA
REMAINDER @ 50%	1,328 VA	1,593 VA
CONTINUOUS LOAD - NEC 215.4(A)(1)	4,800 VA	4,800 VA
PLUS 25%	1,200 VA	1,200 VA
MOTOR LOAD - NEC 430.24	8,500 VA	8,500 VA
PLUS 25% OF LARGEST MOTOR	1,250 VA	1,250 VA
6 - KITCHEN LOADS - NEC 120.56		
L1 (3,600 VA X 0.65) =	2,340 VA	
L2 (2,700 VA X 0.65) =		1,755 VA
TOTAL BALANCED LOAD (1-PHASE)	25,953 VA	25,953 VA
TOTAL UNBALANCED LOAD (1-PHASE)	810 VA	0 VA
NEUTRAL LOAD		
LINE AMPS BALANCED (1-PHASE)	216.3 A	216.3 A
LINE AMPS UNBALANCED (1-PHASE)	6.8 A	0.0 A
TOTALS	223.1 A	216.3 A
ADJUSTMENT FACTOR	0.0 A	0.0 A
TOTAL DESIGN LOAD	223.1 A	216.3 A

VOLTAGE DROP CALCULATIONS

Single Phase $(2 \times 25' L \times 0.0608 R \times 223.1 A \div 1,000) = 0.7 \text{ VD}$
Voltage Drop % $(0.7 \text{ VD} \div 240 \text{ V} \times 100) = 0.3 \% \text{ VD}$

FAULT CURRENT CALCULATIONS

Available Fault Current at Starting Point $((32,610 \text{ AFC} \times 1.00 \text{ UA}) + 424 \text{ MC}) = 33,034 \text{ AFC}$
Conductor Factor CF - Formula $(2 \times 25 \text{ L} \times 33,034 \text{ AFC}) \div (15,082 \text{ C} \times 1 \text{ N} \times 240 \text{ V}) = 0.456 \text{ CF}$
Conductor Multiplier CM - Formula $(1) \div (1 + 0.456 \text{ CF}) = 0.687 \text{ CM}$
Conductor Let-Through Current CLC - Formula $(33,034 \text{ AFC} \times 0.687 \text{ CM}) = 22,694 \text{ CLC}$

A - Amps
AFC - Available Fault Current
C - Conductor Constant
CF - Conductor Factor
CLC - Conductor Let-Through Current
CM - Conductor Multiplier
L - Length of Conductor
MC - Motor Contribution
N - Number of Conductors Per Phase
R - Resistance
UA - Utility Adjustment 1.1
V - Voltage
VA - Volt Amps
VD - Voltage Drop