LOAD CALCULATIONS FOR - MAIN SWITCHBOARD

BASED ON THE 2026 NEC

	L1	L2	L3	NEC 220.61(A) NEUTRAL
CALCULATED LOAD (NEC 215.5)	46,080 VA	43,830 VA	44,280 VA	46,080 VA
CALCULATED LOAD WITH DEMAND FACTORS (NEC 215.5)				
GENERAL LOAD	0 VA	0 VA	0 VA	0 VA
RECEPTACLE LOAD (NEC TABLE 220.44)				
1ST 10,000W	3,333 VA	3,333 VA	3,333 VA	3,333 VA
REMAINDER @ 50%	6,973 VA	6,973 VA	6,973 VA	6,973 VA
CONTINUOUS LOAD (NEC 215.2)	4,500 VA	4,500 VA	4,500 VA	4,500 VA
PLUS 25%	1,125 VA	1,125 VA	1,125 VA	
PLUS 0% (NEUTRAL) NEC 215.2(A) EX NO 2				0 VA
MOTOR LOAD (NEC 430.24)	19,200 VA	19,200 VA	19,200 VA	19,200 VA
PLUS 25% OF LARGEST MOTOR	800 VA	800 VA	800 VA	800 VA
KITCHEN LOADS (NEC 220.56)				
L1 (5,100 X 0.65) =	3,315 VA			3,315 VA
L2 (2,850 X 0.65) =		1,853 VA		
L3 (3,300 X 0.65) =			2,145 VA	
TOTAL BALANCED LOAD (3-PHASE)	37,784 VA	37,784 VA	37,784 VA	
TOTAL BALANCED LOAD (1-PHASE)	292 VA	0 VA	292 VA	
TOTAL UNBALANCED LOAD (1-PHASE)	1,170 VA	0 VA	0 VA	
				38,121 VA
LINE AMPS BALANCED (3-PHASE)	314.6 A	314.6 A	314.6 A	
LINE AMPS BALANCED (1-PHASE)	2.8 A	0.0 A	2.8 A	
LINE AMPS UNBALANCED (1-PHASE)	9.8 A	0.0 A	0.0 A	
TOTALS	327.2 A	314.6 A	317.4 A	317.7 A
ADJUSTMENT FACTOR	0.0 A	0.0 A	0.0 A	0.0 A
TOTAL DESIGN LOAD	327.2 A	314.6 A	317.4 A	317.7 A

HARMONIC CURRENT CALCULATION (NEC 310.15 (B) 4 (C) & NEC TABLE 310.15 B (2) A)

(Harmonic Load 0 VA ÷ Connected Load 134,190 VA) X 100 = 0 %

Harmonic Load Does Not Exceed 50%

FAULT CURRENT CALCULATIONS

Available Fault Current at Starting Point ((35,000 AFC x 1.10 UA) + 640 MC) = 39,140 AFC

Conductor Factor CF - Formula (1.732 x 50 L x 39,140 AFC) ÷ (20,566 C x 1 N x 208 SV) = 0.792 CF

Conductor Multiplier CM - Formula (1) ÷ (1 + 0.792 CF) = 0.558 CM

Conductor Let-Through Current CLC - Formula (39,140 AFC x 0.558 CM) = 21,840 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
SV - Secondary Voltage
UA - Utility Adjustment
VA - Volt Amps