

Commercial Load calc

General lighting load___220.42

Receptacle Demand___220.47

Fixed Electric Space Heating___100% of nameplate. HVAC..100% of the largest unit only in optional calc(220.82/84)

Largest motor rule.. add 25% of the largest motor FLA to the total VA(220.50) 430.24

1- General lighting VA (sqft x va/sqft from 220.42(A)

2- Recptacles VA usually given or 1/VA/sqft x area)

3- Apply demand factors to lighting+receptacles

4- Add 100% of fixed equipment (signs, water heaters ect.)

5- Add 25% to largest motor (if any motors)

6- Choose the largest conductor size between 3.16 and table 8

If there is a motor add 125% to the Amps and check on 310.16. If not, just check the conductor size on 310.16. The add up all the loads and check for circular mils on table 8.

Motor branch circuit & Feeder sizing

1-Find FLA Go to 430.250 find volts match to HP= FLA. **ADD 125%**

2-Conductor Ampacity Go to 310.16 find small conductor(next size up)

3-Overcurrent Protection(OCPD)FLA + Inverse time breaker=250% of FLA **430.52**. Then 240.6 Round up for standard breaker size.

4- Feeder 125% largest + 100% others.

Service Calc +25% largest motor FLA



By Kizacuda

cheatography.com/kizacuda/

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