Δ **220.50 Motors and Air-Conditioning Equipment.**

N **(A) Motors.** The conductor sizing requirements specified in 430.24 and 430.25 and the feeder demand factor calculation method specified in 430.26 shall be used to determine motor loads.

N **(B) Air-Conditioning Equipment.** The conductor sizing requirements specified in Part IV of Article 440 shall be used to determine air-conditioning loads for hermetic refrigerant motor-compressors.

220.51 Fixed Electric Space Heating. Fixed electric space-heating loads shall be calculated at 100 percent of the total connected load. However, in no case shall a feeder or service load current rating be less than the rating of the largest branch circuit supplied.

Exception: If reduced loading of the conductors results from units operating on duty-cycle or intermittently, or from all units not operating at the same time, the authority having jurisdiction shall be permitted to grant permission for feeder and service conductors to have an ampacity less than 100 percent if the conductors have an ampacity for the load so determined.

220.52 Small-Appliance and Laundry Loads — Dwelling Unit.

(A) Small-Appliance Circuit Load. In each dwelling unit, the load shall be calculated at 1500 volt-amperes for each 2-wire small-appliance branch circuit as covered by 210.11(C)(1). Where the load is subdivided through two or more feeders, the calculated load for each shall include not less than 1500 volt-amperes for each 2-wire small-appliance branch circuit. These loads shall be permitted to be included with the general lighting load and subjected to the demand factors provided in Table 220.45.

Exception: The individual branch circuit permitted by 210.52(B)(1), Exception No. 2, shall be permitted to be excluded from the calculation required by 220.52.

(B) Laundry Circuit Load. A load of not less than 1500 volt-amperes shall be included for each 2-wire laundry branch circuit installed as covered by 210.11(C)(2). This load shall be permitted to be included with the general lighting load and shall be subjected to the demand factors provided in Table 220.45.

Where additional small-appliance and laundry branch circuits are provided, they also are calculated at 1500 volt-amperes per circuit. All small appliance and laundry loads are combined with the general lighting load, and the demand factors in Table 220.45 can be applied.

220.53 Appliance Load — Dwelling Unit(s). Applying a demand factor of 75 percent to the nameplate rating load of four or more appliances rated ¼ hp or greater, or 500 watts or greater, that are fastened in place, and that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling shall be permitted. This demand factor shall not apply to the following:

(1) Household electric cooking equipment that is fastened in place
(2) Clothes dryers
(3) Space heating equipment
(4) Air-conditioning equipment
(5) Electric vehicle supply equipment (EVSE)

For appliances fastened in place (other than ranges and other cooking appliances, clothes dryers, space-heating, air-conditioning equipment, and electric vehicle supply equipment), feeder capacity must be provided for the sum of these loads. If the total load includes four or more such appliances, a demand factor of 75 percent is permitted. To reduce the number of small motor-operated appliance loads (e.g., bathroom ventilating fans) that are typically supplied by general-purpose branch circuits from having two demand factors applied (220.53 plus Table 220.45), the minimum appliance rating that can be considered in applying the 75 percent demand of 220.53 is either 500 watts or greater or ¼ horsepower (hp).

See also

Table 430.248 for the full-load current, in amperes, for single-phase ac motors in accordance with 220.50

220.54 Electric Clothes Dryers — Dwelling Unit(s). The load for household electric clothes dryers in a dwelling unit(s) shall be either 5000 watts (volt-amperes) or the nameplate rating, whichever is larger, for each dryer served. The use of the demand factors in Table 220.54 shall be permitted. Where two or more single-phase dryers are supplied by a 3-phase, 4-wire feeder or service, the total load shall be calculated on the basis of twice the maximum number connected between any two phases. Kilovolt-amperes (kVA) shall be considered equivalent to kilowatts (kW) for loads calculated in this section.

TABLE 220.54 *Demand Factors for Household Electric Clothes Dryers*

Number of Dryers	Demand Factor (%)
1–4	100
5	85
6	75
7	65
8	60
9	55
10	50
11	47
12–23	47% minus 1% for each dryer exceeding 11
24–42	35% minus 0.5% for each dryer exceeding 23
43 and over	25%

The use of demand factors is permitted but not required, because the *NEC*® does not prohibit applying the full load of all dryers to a service and/or feeder calculation. However, this method is not necessary or practical, and experience has demonstrated that the use of the Table 220.54 demand factors provides sufficient