TABLE 220.84(B) *Optional Calculations — Demand Factors for Three or More Multifamily Dwelling Units*

Number of Dwelling Units	Demand Factor (%)
3–5	45
6–7	44
8–10	43
11	42
12–13	41
14–15	40
16–17	39
18–20	38
21	37
22–23	36
24–25	35
26–27	34
28–30	33
31	32
32–33	31
34–36	30
37–38	29
39–42	28
43–45	27
46–50	26
51–55	25
56–61	24
62 and over	23

220.85 Two Dwelling Units. Where two dwelling units are supplied by a single feeder or service and the calculated load under Part III of this article exceeds that for three identical units calculated under 220.84, the lesser of the two loads shall be permitted to be used.

220.86 Schools. The calculation of a feeder or service load for schools shall be permitted in accordance with Table 220.86 in lieu of Part III of this article where equipped with electric space heating, air conditioning, or both. The connected load to which the demand factors of Table 220.86 apply shall include all of the interior and exterior lighting, power, water heating, cooking, other loads, and the larger of the air-conditioning load or space-heating load within the building or structure.

Feeders and service conductors whose calculated load is determined by this optional calculation shall be permitted to have the neutral load determined by 220.61. Where the building

N   TABLE 220.86 *Optional Method — Demand Factors for Feeders and Service Conductors for Schools*

Connected Load		Demand Factor (%)	Calculated Loads (VA)
Total VA/m²	Total VA/ft²		
0–33	0–3	100	Amount × 100%
Over 33–220	Over 3–20	75	(Amount × 75%) + 3
Remainder over 220	Remainder over 20	25	(Amount × 25%) + 15.75

or structure load is calculated by this optional method, feeders within the building or structure shall have ampacity as permitted in Part III of this article; however, the ampacity of an individual feeder shall not be required to be larger than the ampacity for the entire building.

This section shall not apply to portable classroom buildings.

The air-conditioning load in portable classrooms must comply with Article 440, and the lighting load must be considered continuous. The demand factors in Table 220.86 do not apply to portable classrooms, because those demand factors would decrease the feeder or service size to below that required for the connected continuous load.

Table 220.86 provides a series of demand increments that are permitted to be applied to the initial calculated load for service or feeder conductors supplying the total load of a school building in lieu of the "standard calculation" covered in Part III of Article 220. The incremental steps of Table 220.86 are based on more significant reductions of the total load as the load per square foot increases. Any portion of the load exceeding 20 volt-amperes per square foot is permitted to have a 25-percent demand factor applied. This approach is similar in concept to that applied to dwellings in Table 220.45, except that the demands in Table 220.86 apply to the entire load of the building, not just the general lighting load.

Feeder conductors that do not supply the entire load of the building or structure are to be calculated in accordance with Part III of Article 220. Feeder conductors supplying subdivided building loads are not required to be larger than the service or feeder conductors that supply the entire building or structure load.

Calculation Example

Calculate the demand load for a 100,000 ft² school building if the calculated load without demand factors is 2.5 MVA (2,500,000 VA).

Solution

Step 1. Determine load per square foot:

$$2.5 \text{ MVA}/100{,}000 \text{ ft}^2 = 25 \text{ VA/ft}^2$$

Step 2. Calculate the demand load using Table 220.86:

First 3 VA/ft² at 100%	3 VA/ft²
Next 17 VA/ft² at 75%	
17 VA/ft² × 0.75	12.75 VA/ft²
Remaining 5 VA/ft² at 25%	
5 VA/ft² × 0.25	1.25 VA/ft²
Overall demand factor	17 VA/ft²

Step 3. Calculate demand load for the school:

$$17 \text{ VA/ft}^2 \times 100{,}000 \text{ ft}^2 = 1{,}700{,}000 \text{ VA} = 1.7 \text{ MVA}$$

Δ **220.87 Determining Existing Loads.** The calculation of a feeder or service load for existing installations shall be permitted to use actual maximum demand to determine the existing load under all of the following conditions: