

Montgomery County Public Schools Facilities Guide

DIVISION 16 – ELECTRICAL

SECTION 16441 PANELBOARDS

PART 1 – GENERAL

- A. Engineer must use connected load for all load calculations.
- B. All bus bars in panelboards shall be copper. Aluminum is not acceptable.
- C. All panelboards shall be circuit breaker type.
- D. All circuit breakers in panelboards shall be of the dual element type with inverse time delay for overload and instantaneous element for short circuit. They shall trip free of handle. Multi-pole breakers shall have single handle and common trip. Handle ties, with or without common tripping, will not be permitted.
- E. Acceptable Manufacturers: Square D, Eaton/Cutler-Hammer, Siemens, General Electric
- F. Provide transient voltage surge suppressors (TVSS) for all data power panels.
- G. Provide separate data panels with K-13 transformers for computer power with 200% neutral bus. Provide separate dedicated neutral for each circuit.
- H. It is preferred that all panelboards be surface mounted. If flush-mounted panelboards are provided then the designer shall verify that the thickness of the wall is adequate before locating the panelboard.
- I. Provide circuit breaker type for panelboards (switch/fuse type is not preferred).
- J. Provide a 5 year warranty for all circuit breakers to include parts and labor.
- K. In each panelboard provide minimum 25% spare capacity. For flush mounted panelboards, provide at least 4 - 3/4" EMT conduits from panelboard to ceiling space.
- L. In Elementary and Middle Schools, provide separate panelboards for the following spaces:
 1. Kitchen
 2. Computer Laboratory
- M. In Middle Schools, provide separate panelboards for the following spaces:
 1. Kitchen
 2. Computer Laboratory
 3. Home Economic Lab
 4. Tech Lab/Science Lab
 5. Communications Lab
 6. Stage
- N. In High Schools, provide separate panelboards for the following spaces:
 1. Kitchen
 2. Computer Laboratory
 3. Nutrition Lab
 4. Engineering Research & Design Center

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5. Applied Tech Center/Science Lab
6. Communications Lab
7. Stage