

## DESIGN CRITERIA

1. Related Sections: Division 01 and Sections 26 05 00, 26 05 33, and 11 40 00.23 apply.
2. Circuit Breaker Panelboards: Provide full size bolted-connection panels as required to serve all branch circuits and provide 20 percent spares. Load centers are not acceptable. Install in utility spaces near to the loads served, to the extent practicable. When installed in occupied, finished spaces, make the panelboards as inconspicuous as possible by selecting location thoughtfully and providing enamel paint finish of exposed panel fronts to match color of surrounding surfaces. Do not place electrical panels in any areas potentially exposed to moisture and wash down operations such as processing areas, janitor's closets etc.
3. Refrigeration Equipment Loads: Provide a separate power panel under Division 23 to serve refrigeration equipment loads.
4. Bus Bars: Provide copper bus bars in all panelboards.
5. Required Features:
  - A. Dead front construction, flush- or surface- type as required. Flush trims with no exposed screws or hinges. Latch with lock (all keyed alike). Circuit directory under plastic inside door, neatly typed with final circuit designations. Directory shall be specific as to load served; e.g., "Lights – Sales Row 5" rather than "Lights"; use room names, not numbers.
  - B. Plated copper bussing fully rated with sequentially phased branch distribution. Fully-rated neutral bar in mains compartment. Equipment ground bar in each panelboard. Additional isolated ground bar where specified. Provide all bus links and accessories required for ultimate full utilization of spaces for future breakers.
  - C. Breakers: Thermal-magnetic trip calibrated at 40 deg C, in each pole of multi-pole breakers, fully common-trip. Thermal trip elements to be ambient-compensating above 40 deg C. Breaker trip ratings to be visible without removing panel cover. Breakers to have single trip-free operating handle with clearly distinct "closed", "open" and "tripped" positions.
6. Ensure that walls have sufficient depth to conceal the panelboard tub where flush mounted panels are intended. Provide full NEC "working space" clearance at panelboards.
7. Provide spare conduits to an accessible space for spares at all flush panelboards.

END OF SECTION