

3-pole circuit breaker or fusible switch shall be considered three overcurrent devices.

#### 408.55 Wire-Bending Space Within an Enclosure Containing a Panelboard.

**(A) Top and Bottom Wire-Bending Space.** The enclosure for a panelboard shall have the top and bottom wire-bending space sized in accordance with Table 312.6(B)(2) for the largest conductor entering or leaving the enclosure.

*Exception No. 1: Either the top or bottom wire-bending space shall be permitted to be sized in accordance with Table 312.6(A) for a panelboard rated 225 amperes or less and designed to contain not over 42 overcurrent devices. For the purposes of this exception, a 2-pole or a 3-pole circuit breaker shall be considered as two or three overcurrent devices, respectively.*

*Exception No. 2: Either the top or bottom wire-bending space for any panelboard shall be permitted to be sized in accordance with Table 312.6(A) where at least one side wire-bending space is sized in accordance with Table 312.6(B)(2) for the largest conductor to be terminated in any side wire-bending space.*

*Exception No. 3: The top and bottom wire-bending space shall be permitted to be sized in accordance with Table 312.6(A) spacings if the panelboard is designed and constructed for wiring using only a single 90-degree bend for each conductor, including the grounded circuit conductor, and the wiring diagram shows and specifies the method of wiring that shall be used.*

*Exception No. 4: Either the top or the bottom wire-bending space, but not both, shall be permitted to be sized in accordance with Table 312.6(A) where there are no conductors terminated in that space.*

Using Exhibit 408.4 as a reference, the general rule calls for wire-bending spaces  $T_1$  and  $T_4$  to be in accordance with Table 312.6(B)(2) for size  $M$  conductors (assuming those are the largest conductors entering the enclosure). Side wire-bending space  $T_2$  must be in accordance with Table 312.6(A) for the largest wire size to be used within that side space, and  $T_3$  must be similarly sized for the largest conductor within the enclosure's right side.

Exception No. 1 to 408.55(A) permits either  $T_1$  or  $T_4$  (not both) to be reduced to the space required by Table 312.6(A) for size  $M$  conductors for a panelboard rated 225 amperes or less and designed to contain not over 42 overcurrent devices.

Exception No. 2 to 408.55(A) permits either  $T_1$  or  $T_4$  (not both) to be reduced to the space required by Table 312.6(A) for size  $M$  conductors for any panelboard. Exception No. 2 is valid where either  $T_2$  or  $T_3$  (or both) is sized in accordance with Table 312.6(B)(2) for the largest conductor to be terminated in either the left- or the right-side space. Under the construction rules of 408.55, a panelboard enclosure might not be of adequate size for all manner of wiring; therefore, 312.6 must be considered when wiring is planned.

Exception No. 3 to 408.55(A) permits both the top and the bottom wire-bending space to be reduced as noted. A single 90-degree bend, meaning one and only one 90-degree bend, must be present for the ungrounded conductors. A grounded conductor is permitted to be wired straight in if spacing is provided per Table 312.6(B)(2) for the grounded conductor.

Exception No. 4 to 408.55(A) permits a reduction to the Table 312.6(A) spacing for the top or bottom space where no terminals face that space. In this case, the space is a gutter space, and measurement is on a line perpendicular to the wall of the enclosure and to the closest barrier post or side of a switch, fuse, or circuit breaker unit that is installed or may be installed in the future. Exhibit 408.4 illustrates that exception.

**(B) Side Wire-Bending Space.** Side wire-bending space shall be in accordance with Table 312.6(A) for the largest conductor to be terminated in that space.

**(C) Back Wire-Bending Space.** Where a raceway or cable entry is in the wall of the enclosure opposite a removable cover, the distance from that wall to the cover shall be permitted to comply with the distance required for one wire per terminal in Table 312.6(A). The distance between the center of the rear entry and the nearest termination for the entering conductors shall not be less than the distance given in Table 312.6(B)(2).

**408.56 Minimum Spacings.** The distance between uninsulated metal parts, busbars, and other uninsulated live parts shall not be less than specified in Table 408.56.

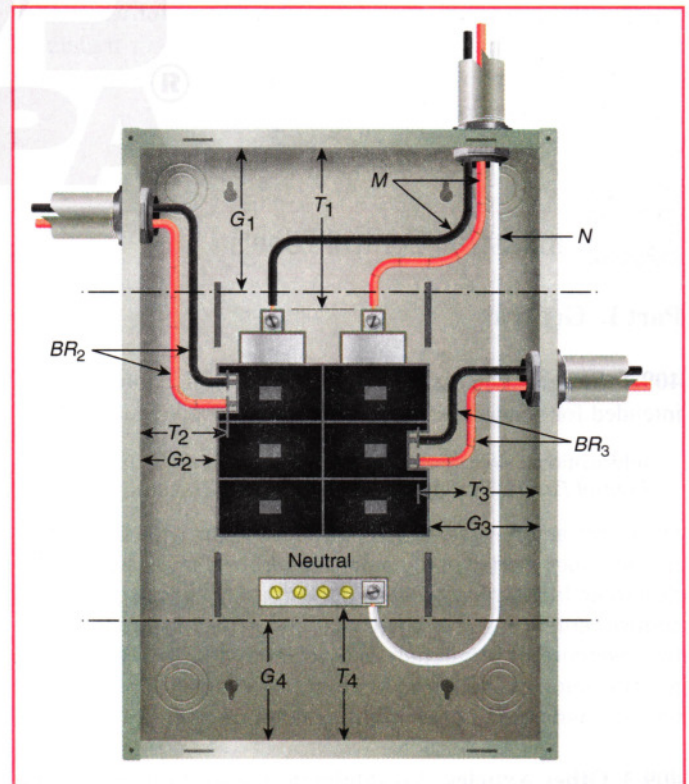


EXHIBIT 408.4 Panelboard wire-bending space per 312.6 and 408.55.