

Δ TABLE 520.44(C)(2)(1) Ampacity of Listed Extra-Hard Usage Cords and Cables with Temperature Ratings of 75°C (167°F) and 90°C (194°F) [Based on Ambient Temperature of 30°C (86°F)]

Size (AWG)	Temperature Rating of Cords and Cables		Maximum Rating of Overcurrent Device
	75°C (167°F)	90°C (194°F)	
14	24	28	15
12	32	35	20
10	41	47	25
8	57	65	35
6	77	87	45
4	101	114	60
2	133	152	80

Note: Ampacity shown is the ampacity for multiconductor cords and cables where only three copper conductors are current-carrying in accordance with 400.5. If the number of current-carrying conductors in a cord or cable exceeds three and the load diversity is 50 percent or less, the ampacity of each conductor shall be reduced as shown in Table 520.44(C)(2)(2):

N TABLE 520.44(C)(2)(2) Ampacity Adjustment Factors for More Than Three Current-Carrying Conductors in a Cord or Cable Where Load Diversity Is 50 Percent or Less

Number of Conductors	Percent of Ampacity Value in Table 520.44(C)(2)(1)
4–6	80
7–24	70
25–42	60
43 and above	50

Note: Ultimate insulation temperature. In no case shall conductors be associated together in such a way with respect to the kind of circuit, the wiring method used, or the number of conductors such that the temperature limit of the conductors is exceeded.

A neutral conductor that carries only the unbalanced current from other conductors of the same circuit need not be considered as a current-carrying conductor.

In a 3-wire circuit consisting of two-phase conductors and the neutral conductor of a 4-wire, 3-phase, wye-connected system, the neutral conductor carries approximately the same current as the line-to-neutral currents of the other conductors and shall be considered to be a current-carrying conductor.

On a 4-wire, 3-phase wye circuit where the major portion of the load consists of nonlinear loads, there are harmonic currents in the neutral conductor. Therefore, the neutral conductor shall be considered to be a current-carrying conductor.

Informational Note: For the purposes of Table 520.44(C)(2)(1), load diversity is the percentage of the total current of all simultaneously energized circuits fed by the cable to the sum of the ampacities of all pairs of circuit conductors in that cable.

(3) Identification of Conductors in Multiconductor Extra-Hard-Usage Cords and Cables. Neutral conductors shall be white without stripe or shall be identified by a distinctive white marking at their terminations. Equipment grounding conductors shall be green with or without yellow stripe or shall be identified by a distinctive green marking at their terminations.

520.45 Receptacles. Receptacles for electrical equipment on stages shall be rated in amperes. Conductors supplying receptacles shall be in accordance with Articles 310 and 400.

520.46 Connector Strips, Drop Boxes, Floor Pockets, and Other Outlet Enclosures. Receptacles for the connection of portable stage-lighting equipment shall be pendant or mounted in pockets or enclosures and shall comply with 520.45. Supply cables for connector strips and drop boxes shall be as specified in 520.44(C).

Exhibit 520.4 shows a hanging connector strip with its associated hardware and flexible cable allowing for height adjustment. Exhibits 520.5 and 520.6 illustrate two types of connections for portable stage lighting equipment.

520.47 Backstage Lamps (Bare Bulbs). Lamps (bare bulbs) installed in backstage and ancillary areas where they can come in contact with scenery shall be located and guarded so as to be free from physical damage and shall provide an air space of not less than 50 mm (2 in.) between such lamps and any combustible material.

Exception: Decorative lamps installed in scenery shall not be considered to be backstage lamps for the purpose of this section.

520.48 Curtain Machines. Curtain machines shall be listed.



EXHIBIT 520.5 A 4-gang, 4-receptacle pin-plug outlet box designed for flush mounting. (Courtesy of Electronic Theatre Controls, Inc.)



EXHIBIT 520.6 A typical three-circuit connector strip designed for wall or pipe mounting. (Courtesy of Electronic Theatre Controls, Inc.)