

Article 400 Flexible Cords and Cables

I. General

400.1 Scope

400.2 Other Articles

400.3 Suitability

400.4 Types

Table 400.4 lists the approved types of flexible cables and cords. A cable or cord not on this list must have a special investigation. Notes to the table should be reviewed.

400.5 Ampacity of Flexible Cords and Cables

Tables 405.5(A) and 405.5(B) show the ampacity of flexible cords or cables of up to three current-carrying conductors. When more than three current-carrying conductors are used, a derating factor is used. These derating factors are shown in a table in the code. There is information on Ultimate Insulation Temperature. There are additional requirements. If the cords are used in an environment where the ambient temperature is higher than 30°C (86°F), then the temperature correction factors from Table 310.16 are applied to the ampacity allowed in Table 400.5.

400.6 Marking

400.7 Uses Permitted

(1) Pendants; (2) wiring of luminaires (fixtures); (3) connection of portable lamps or appliances; (4) for elevator cables; (5) cranes and hoists; (6) for utilization equipment if they are to be moved a lot; (7) to prevent noise and vibration transmission; (8) where removal for maintenance is required and the appliance is to use a flexible cord or cable; (9) connection of moving parts; (10) where specifically permitted in the code. When used as indicated in (3), (6), and (8), a plug must be used on the cord and it must be plugged into a receptacle for power. There is an exception in 368.56: there are requirements for attachment plugs and multioutlet assemblies.

400.8 Uses Not Permitted

Unless permitted in Section 400.7, they are not permitted: (1) for a substitute for fixed wiring of a building; (2) installed through a hole in walls, ceilings, or floors; (3) through doorways, windows, or similar openings; (4) installed concealed (there is an exception in 368); (5) attached to building surfaces; (6) installed in raceways unless permitted by the code; (7) where subject to physical damage.

400.9 Splices

400.10 Pull at Joints and Terminals

Some type of strain relief must be provided (i.e., a knot, tape, or special fitting).

400.11 In Show Windows and Show Cases

Use only Type S, SO, SE, SEO, SEOO, SOO, SJ, SJE, SJO, SJEO, SJEOO, SJOO, ST, STO, STOO, SJT, SJTO, SJTOO, SEW, SEOW, SEOOW, SJEW, SJEOW, SJEOWW, SJOW, SJTOW, SJTW, SJOOW, SOW, SOOW, SJTOOW, STW, STOW, or STOOW. This restriction is not necessary for chain-supported lighting fixtures or portable lamps and display merchandise.

400.12 Minimum Size

Refer to Table 400.4.

400.13 Overcurrent Protection

If not smaller than 18 AWG or tinsel cords or a cord approved for a specific appliance, no separate overcurrent protection is required. They are protected in accordance with 240.4.

400.14 Protection from Damage

II. Construction Specifications

400.20 Labels

400.21 Nominal Insulation Thickness

Refer to Table 400.4.

400.22 Grounded-Conductor Identification

One conductor that is used as a grounded circuit conductor must be clearly marked. Identification methods include (1) a white or gray braid, (2) a tracer of a distinguishable color in the braid, (3) white or gray insulation, (4) white or gray separator, (5) tinned conductor, and (6) some distinguishable surface marking.

400.23E Equipment Grounding-Conductor Identification

This conductor must also have a distinguishing marking of a colored braid, colored insulation, or colored cover. The color to be used is either green or green with yellow stripes.

400.24 Attachment Plugs

III. Portable Cables Over 600 Volts, Nominal

400.30 Scope

400.31 Construction

400.32 Shielding

400.33 Grounding

400.34 Minimum Bending Radii

400.35 Fittings

400.36 Splices and Terminations