

## Introduction

This article covers the general requirements, applications, and construction specifications for flexible cords and flexible cables. The *NEC* doesn't consider flexible cords to be wiring methods like those defined in Chapter 3.

Always use a cord (and fittings) identified for the application. For example, use cords listed for a wet location if you're using the cord outdoors in a wet location. The jacket material of any cord is tested to maintain its insulation properties and other characteristics only in the environments for which it has been listed.

This textbook doesn't go into detail about Table 400.4, but you should take a few moments to review it. It's not limited to extension cords—three of the entries are for elevator cables. You do not need to memorize this table, but do become aware of the types of cords and cables it covers.

**400.1 Scope.** Article 400 covers the general requirements, applications, and construction specifications for flexible cords and flexible cables as contained in Table 400.4.

**400.3 Suitability.** Flexible cords and flexible cables, as well as their fittings must be suitable for the use and location.

**AUTHOR'S COMMENT:** Other *NEC* Articles might have specific requirements. **Figure 400-1**

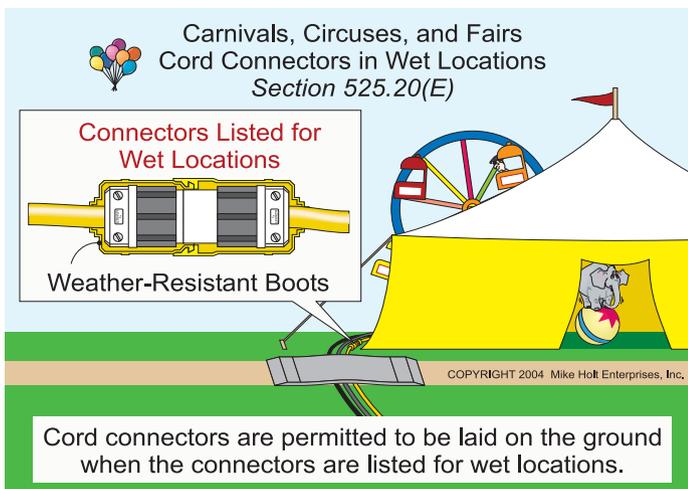


Figure 400-1

### 400.4 Types of Flexible Cords and Flexible Cables.

The use of flexible cords and flexible cables must conform to the description contained in Table 400.4.

### 400.7 Uses Permitted.

**(A) Uses Permitted.** Flexible cords and flexible cables within the scope of this article can be used for the following applications:

- (1) Pendants [210.50(A) and 314.23(H)].
- (2) Wiring of luminaires [410.14 and 410.30(B)].
- (3) Connection of portable lamps, portable and mobile signs, or appliances [422.16].
- (4) Elevator cables.
- (5) Wiring of cranes and hoists.
- (6) Connection of utilization equipment to facilitate frequent interchange [422.16]. **Figure 400-2**
- (7) Prevention of the transmission of noise or vibration [422.16].
- (8) Appliances where the fastening means and mechanical connections are specifically designed to permit ready removal for maintenance and repair, and the appliance is intended or identified for flexible cord connections [422.16].

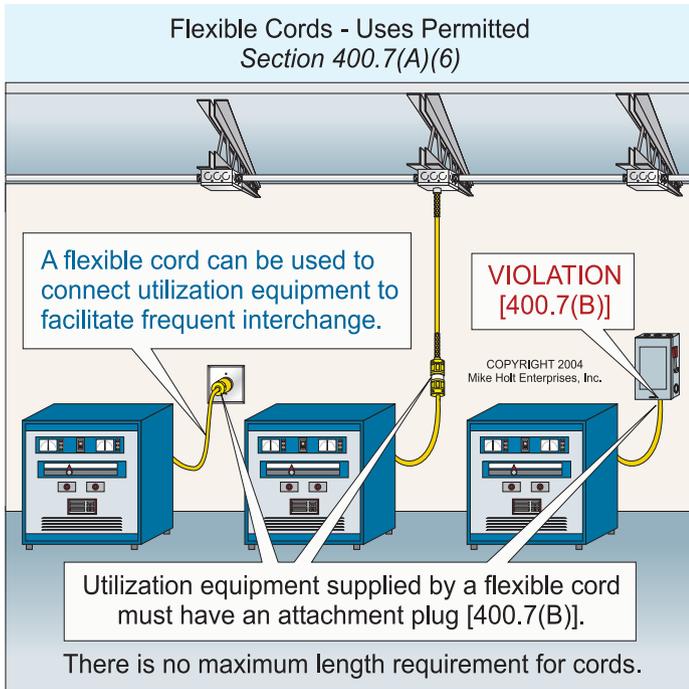


Figure 400-2

(9) Connection of moving parts.

(10) Where specifically permitted elsewhere in this Code.

**AUTHOR'S COMMENT:** Flexible cords and flexible cables are permitted for fixed permanent wiring by 501.10(A)(2) and (B)(2), 501.140, 502.4(A)(1)(e), 502.4(B)(2), 503.3(A)(2), 550.10(B), 553.7(B), and 555.13(A)(2).

**(B) Attachment Plugs.** Attachment plugs are required for flexible cords used for any of the following applications: **Figure 400-3**

- Portable lamps, portable and mobile signs, or appliances [400.7(A)(3)].
- Stationary equipment to facilitate its frequent interchange [400.7(A)(6)]. See 422.16.
- Appliances specifically designed to permit ready removal for maintenance and repair, and identified for flexible cord connection [400.7(A)(8)].

**AUTHOR'S COMMENT:** An attachment plug can serve as the disconnecting means for stationary appliances [422.33] and room air conditioners [440.63].

**400.8 Uses Not Permitted.** Unless specifically permitted in 400.7, flexible cords must not be:

(1) Used as a substitute for the fixed wiring of a structure.

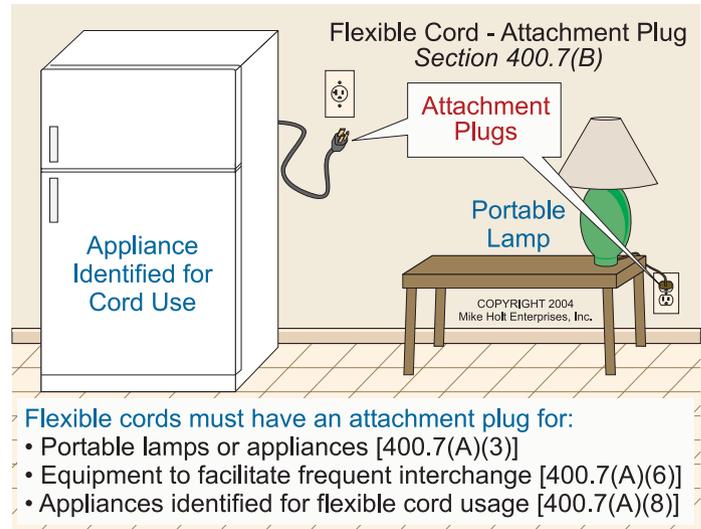


Figure 400-3

- Flexible cords must have an attachment plug for:
- Portable lamps or appliances [400.7(A)(3)]
  - Equipment to facilitate frequent interchange [400.7(A)(6)]
  - Appliances identified for flexible cord usage [400.7(A)(8)]

(2) Run through holes in walls, structural ceilings, suspended/dropped ceilings, or floors. **Figure 400-4**

**AUTHOR'S COMMENT:** According to an article in the International Association of Electrical Inspectors magazine (*IAEI News*), a flexible cord run through a cabinet for an appliance isn't considered as being run through a wall. **Figure 400-5**

- (3) Run through doorways, windows, or similar openings.
- (4) Attached to building surfaces.
- (5) Where concealed by walls, floors, or ceilings, or located above suspended or dropped ceilings. **Figure 400-6**

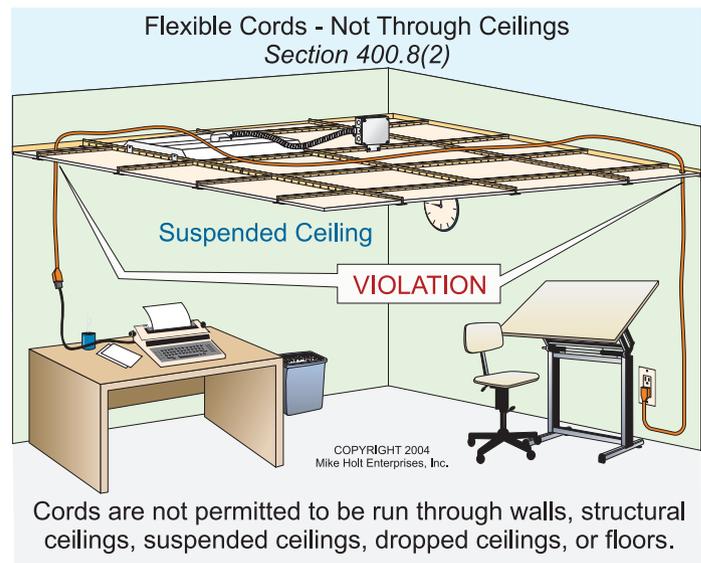


Figure 400-4

Cords are not permitted to be run through walls, structural ceilings, suspended ceilings, dropped ceilings, or floors.