



FIGURE J-14

**Subpart K—Electric Cables, Signaling Cables, and Cable Splice Kits**

SOURCE: 57 FR 61220, Dec. 23, 1992, unless otherwise noted.

**§ 7.401 Purpose and effective date.**

This subpart establishes the flame-resistant requirements for approval of electric cables, signaling cables and cable splice kit designs. Applications for approval or extension of approval submitted after February 22, 1994 shall meet the requirements of this subpart.

**§ 7.402 Definitions.**

The following definitions apply in this subpart.

*Component.* Any material in a cable splice kit which becomes part of a splice.

*Conductor.* A bare or insulated wire or combination of wires not insulated from one another, suitable for carrying an electric current.

*Electric Cable.* An assembly of one or more insulated conductors of electric current under a common or integral jacket. A cable may also contain one or more uninsulated conductors.

*Jacket.* A nonmetallic abrasion-resistant outer covering of a cable or splice.

*Power Conductor.* An insulated conductor of a cable assembly through which the primary electric current or power is transmitted.

*Signaling Cable.* A fiber optic cable, or a cable containing electric conductors of a cross-sectional area less than #14 AWG used where the circuit cannot deliver currents which would increase conductor temperatures beyond that established for the current-carrying capacity of the conductors.

*Splice.* The mechanical joining of one or more severed conductors in a single length of a cable including the replacement of insulation and jacket.

*Splice Kit.* A group of materials and related instructions which clearly identify all components and detail procedures used in safely making a flame-resistant splice in an electric cable.

**§ 7.403 Application requirements.**

(a) *Electric cables and signaling cables.* A single application may address two or more sizes, types, and constructions if the products do not differ in composition of materials or basic design. Applications shall include the following information for each product:

- (1) Product information:
  - (i) Cable type (for example, G or G-GC).
  - (ii) Construction (for example, round or flat).
  - (iii) Number and size (gauge) of each conductor.
  - (iv) Voltage rating for all cables containing electric conductors.
  - (v) For electric cables, current-carrying capacity of each conductor, with corresponding ambient temperature upon which the current rating (ampacity) is based, of each power conductor.

(2) Design standard. Specify any published consensus standard used and fully describe any deviations from it, or fully describe any nonstandard design used.

(3) Materials. Type and identifying numbers for each material comprising the finished assembly.

(b) *Splice kit.* A single application may address two or more sizes, types, and constructions if the products do not differ in composition of materials or basic design. Applications shall include the following information for each product:

- (1) Product information:
  - (i) Trade name or designation (for example, style or code number).
  - (ii) Type or kit (for example, shielded or nonshielded).
  - (iii) Voltage rating.

(2) Design standard. Specify any published design standard used and fully describe any deviations from it, or provide complete final assembly dimensions for all components for each cable

that the splice kit is designed to repair.

(3) Materials. Type of materials, supplier, supplier's stock number or designation for each component.

(4) Complete splice assembly instructions which clearly identify all components and detail procedures used in making the splice.

**§ 7.404 Technical requirements.**

(a) Electric cables and splices shall be flame resistant when tested in accordance with § 7.407.

(b) Signaling cables shall be flame resistant when tested in accordance with § 7.408.

**§ 7.405 Critical characteristics.**

(a) A sample from each production run, batch, or lot of manufactured electric cable, signaling cable, or splice made from a splice kit shall be flame tested, or

(b) A sample of the materials that contribute to the flame-resistant characteristic of the cable or splice and a sample of the cable or splice kit assembly shall be visually inspected or tested through other means for each production run, batch, or lot to ensure that the finished product meets the flame-resistance test.

**§ 7.406 Flame test apparatus.**

The principal parts of the apparatus used to test for flame resistance of electric cables, signaling cables and splices shall include#:

(a) *Test chamber.* A rectangular enclosure measuring 17 inches deep by 14½ inches high by 39 inches wide and completely open at the top and front. The floor or base of the chamber shall be fabricated or lined with a noncombustible material that will not extinguish burning matter which may fall from the test specimen during testing. The chamber shall have permanent connections mounted to the back wall, sides, or floor of the chamber which extend to the sample end location. These are used to energize the electric cable and splice specimens. They are not used, but may stay in place, when testing signaling cables.

(b) *Specimen holder (support).* A specimen holder (support) consisting of