## Chapter E 324

## CONCEALED KNOB-AND-TUBE WORK

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E 324.01 Definition. Concealed knob-and-tube wiring is a wiring method using knobs, tubes and flexible non-metallic tubing for the protection and support of insulated conductors concealed in hollow spaces of walls and ceilings of buildings.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.02 Use. Concealed knob-and-tube work may be used in the hollow spaces of walls and ceilings. It shall not be used (1) in commercial garages, (2) in theaters, except as provided in section E 520.04, (3) in motion-picture studios, nor (4) in hazardous locations.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.03 Other chapters. In addition to the provisions of this chapter, concealed knob-and-tube wiring shall conform to the other applicable provisions of this code. See especially chapter E 300.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.04 Conductors. Only single conductors shall be used. The type of conductors shall conform to chapter E 310.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.05 Supports. Conductors shall be supported at intervals not exceeding 4½ feet by knobs or tubes of noncombustible, non-absorptive, insulating material. There shall be a knob within 6 inches from each tap. Tie wires shall comply with E 320.08. Where such support is impracticable and the conductors are in a dry location, they may be fished when separately enclosed in flexible non-metallic tubing extending in continuous lengths from one support to the next or to a box, or from one box to another.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

- E 324.06 Conductor separation. (1) Conductors shall be separated at least 3 inches and maintained at least 1 inch from the surface wired over.
- (2) At distributing centers, meters, outlets, switches or other places where space is limited and the 3 -inch separation cannot be maintained, each conductor shall be encased in a continuous length of flexible tubing.
- (3) Where practicable, conductors shall be run singly on separate timbers or studding.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

Electrical Code, Volume 2 Register, April, 1964, No. 100 E 324.07 Separation from other objects and protection. Conductors shall be separated from other conductors and objects as follows:

(1) The provisions as to rigid supporting and clearance from foreign wires and other objects, as specified for open wiring in sections E 320.09, E 320.10, E 320.11, and E 320.15, shall be complied with.

(2) Conductors passing through cross timbers in plastered partitions shall be protected by an additional noncombustible, non-absorptive insulating tube extending at least 3 inches above the timber.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.08 In unfinished attics and roof spaces. Conductors in unfinished attics or roof spaces shall comply with the following:

(1) Conductors in unfinished attics and roof spaces shall be run through or on the sides of joists, studs and rafters, except in attics and roof spaces having head room at all points of less than 3 feet in

buildings completed before the wiring is installed.

(2) Where conductors in accessible unfinished attics or roof spaces reached by stairway or permanent ladder are run through bored holes in floor joists or through bored holes in studs or rafters within 8 feet of the floor or floor joists, such conductors shall be protected by substantial running boards extending at least 1 inch on each side of the conductors and securely fastened in place.

(3) Where carried along the sides of rafters, studs or floor joists, neither running boards nor guard strips will be required.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.09 Boxes of insulating material. Non-metallic outlet boxes may be used as provided in sections E 370.03 and E 370.07.

History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.

E 324.10 Switches. See sections E 380.03 and E 380.10. History: Cr. Register, April, 1964, No. 100, eff. 5-1-64.