

## Chapter E 334

## ARMORED CABLE

## Types AC, ACT, ACV and ACL

E 334.01	Definition	E 334.08	In accessible attics
E 334.02	General	E 334.09	Protection at cable ends
E 334.03	Use	E 334.10	Bends
E 334.04	Other chapters	E 334.11	Boxes and fittings
E 334.05	Supports	E 334.12	Switches
E 334.06	Exposed work	E 334.13	Conductors
E 334.07	Through studs, joists and rafters		

**E 334.01 Definition.** An armored cable is a fabricated assembly of insulated conductors and a flexible metallic covering.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.02 General.** Armored cable for 600 volts or less shall conform to the following:

(1) **ARMOR.** All types of armored cables except types ACL and ACV, in all sizes, shall have an internal bonding strip of either copper or aluminum in intimate contact with the armor for its entire length.

(2) **MARKING.** The provisions of section E 310.02 shall apply, except ready identification of the maker shall be by distinctive external markers in the cable armor throughout its entire length.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.03 Use.** Armored cable (type AC or ACT) may be used for both exposed work and concealed work in dry locations; for under-plaster extensions as provided in chapter E 344; and embedded in plaster finish on brick or other masonry, except in damp or wet locations. Armored cable (ACV) may be used only for exposed work in dry locations in buildings used for industrial or commercial purposes, and shall not be smaller than No. 4, except where approved for over 600 volts under sections E 710.03 and E 710.32. Armored cable shall contain lead-covered conductors (type ACL), if used where exposed to the weather or to continuous moisture, for underground runs and embedded in masonry, concrete or fill in buildings in course of construction, or where exposed to oil, gasoline or other conditions having a deteriorating effect on the insulation. Armored cable may be run or fished in the air voids of masonry block or tile walls where such walls are not exposed or subject to excessive moisture or dampness and not below grade line. Armored cable shall not be used (1) in theaters, except as provided in section E 520.04; (2) in motion-picture studios; (3) in any hazardous locations; (4) where exposed to corrosive fumes or vapors; (5) on cranes or hoists, except as provided in section E 610.11 exception No. 3; (6) in storage battery rooms; nor (7) in hoistways or on elevators, except as provided in section E 620.21.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.04 Other chapters.** In addition to the provisions of this chapter, armored cable shall conform to other applicable provisions of this code. See especially chapter E 300.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.05 Supports.** Armored cable shall be secured by approved staples, straps, or similar fittings, so designed and installed as not to injure the cable. Cable shall be secured at intervals not exceeding 4½ feet and within 12 inches from every outlet box or fitting, except where cable is fished and except lengths of not over 24 inches at terminals where flexibility is necessary.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.06 Exposed work.** Exposed runs of cable shall closely follow the surface of the building finish or of running boards, except:

(1) Lengths of not more than 24 inches at terminals where flexibility is necessary.

(2) In accessible attics and roof spaces, for which see section E 334.08.

(3) On the underside of floor joists in basements where supported at each joist and so located as not to be subject to physical damage.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.07 Through studs, joists and rafters.** See section E 300.08.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.08 In accessible attics.** Cable in accessible attics or roof spaces shall be installed as follows:

(1) Where run across the top of floor joists, or within 8 feet of floor or floor joists, across the face of rafters or studding, in attics and roof spaces which are accessible, the cable shall be protected by substantial guard strips which are at least as high as the cable. Where this space is not accessible by permanent stairs or ladders, protection will only be required within 6 feet of the nearest edge of scuttle hole or attic entrance.

(2) Where cable is carried along the sides of rafters, studs or floor joists, neither guard strips nor running boards shall be required.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.09 Protection at cable ends.** At all points where the armor terminates, a fitting shall be provided to protect wires from abrasion, unless the design of the outlet boxes or fittings is such as to afford equivalent protection, and in addition, an approved insulating bushing or its equivalent approved protection shall be provided between the conductors and the armor. The connector or clamp by which the armored cable is fastened to boxes or cabinets shall be of such design that the insulating bushing or its equivalent will be visible for inspection. This bushing is not required with lead-covered cables which shall be so installed that the lead sheath will be visible for inspection. Where change is made from armored cable to other cable or raceway wiring methods, an outlet box shall be installed at junction point as required in section E 300.15.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.10 Bends.** All bends shall be so made that the armor of the cable will not be injured, and the radius of the curve of the inner

edge of any bend shall be not less than 5 times the diameter of the cable.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.11 Boxes and fittings.** See appropriate rules in chapter E 370.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.12 Switches.** See section E 380.03.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.

**E 334.13 Conductors.** Conductors used in armored cable for 600 volts or less shall comply with the requirements for the type of conductors used. Additional protection for the conductors shall be provided as follows: In type AC, the conductors shall have an over-all moisture-resistant and flame-retardant fibrous covering; in type ACT, the individual conductors only shall have a moisture-resistant fibrous covering.

**History:** Cr. Register, November, 1961, No. 71, eff. 12-1-61.