

**Chapter E 330**  
**MINERAL INSULATED-METAL SHEATHED CABLE**  
**Type MI**

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**A. GENERAL**

**E 330.01 Definition and construction.** For the purpose of this chapter, mineral insulated-metal sheathed type MI cable is a cable in which one or more electrical conductors are insulated with a highly compressed refractory mineral insulation and enclosed in a liquidtight and gastight metallic tube sheathing. It shall be used with approved fittings for terminating and connecting to boxes, outlets and other equipment.

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

**E 330.02 Use.** Mineral insulated-metal sheathed cable may be used for services, feeders and branch circuits in both exposed and concealed work, in dry or wet locations; in class I, class II, and class III hazardous locations as noted in the appropriate chapters; for under plaster extensions as provided in chapter E 344; and embedded in plaster finish on brick or other masonry. It may be used where exposed to weather or 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 not having a deteriorating effect on the metal sheath. The sheath of mineral insulated-metal sheathed cable exposed to destructive corrosive conditions, such as some types of cinder fill, shall be protected by materials suitable for those conditions.

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

**E 330.03 Other chapters.** In addition to the provisions of this chapter, the installation of mineral insulated-metal sheathed cable shall comply with the other applicable provisions of this code. See especially chapter E 300.

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

**B. INSTALLATION**

**E 330.04 Supports.** Mineral insulated-metal sheathed cable shall be securely supported by approved staples, straps, hangers or similar fittings, so designed and installed as not to injure the cable. Cable shall be secured at intervals not exceeding 6 feet except where cable is fished.

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

**E 330.05 Through studs, joists and rafters.** See section E 300.08.

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

**E 330.06 Wet locations.** In portions of dairies, laundries, canneries, and other wet locations, and in locations where walls are frequently washed, the entire wiring system, including all boxes and fittings used therewith, shall be made watertight and the cable shall be mounted so that there is at least one-quarter inch air space between it and the wall or other supporting surface.

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

**E 330.07 Bends.** All bends shall be so made that the cable will not be damaged 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 330.08 Terminating seal.** At all points where mineral insulated-metal sheathed cable terminates an approved seal shall be provided immediately after stripping to prevent entrance of moisture into the mineral insulation. The conductors extending beyond the sheath shall be insulated with an approved insulating material.

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

**E 330.09 Fittings.** When type MI cable is connected to boxes or equipment, the fittings shall be approved for the conditions of service. When single conductor type MI cables enter metal boxes through separate openings, refer to section E 300.20.

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

**E 330.10 Insulation resistance.** The completed wiring system shall be tested for insulation resistance in accordance with section E 195.19.

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

### C. CONSTRUCTION SPECIFICATIONS

**E 330.11 General.** Type MI cable for 600 volts shall conform to the following:

(1) **CONDUCTORS.** The conductors are solid copper and have cross sectional areas corresponding to the standard American Wire Gauge sizes.

(2) **INSULATION.** The insulation is a highly compressed refractory mineral which provides proper spacing for the conductors.

(3) **OUTER SHEATH.** The outer sheath shall be of a continuous copper construction to provide mechanical protection and a moisture seal, and an adequate path for grounding purposes.

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