



Article 358 Electrical Metallic Tubing (EMT)

Part I. General

358.1 Scope

This article covers the use, installation, and construction specifications of electrical metallic tubing (EMT).

358.2 Definition

EMT is a listed metallic tubing of circular cross section approved for the installation of electrical conductors when joined together with listed fittings. Compared to RMC and IMC, EMT is relatively easy to bend, cut, and ream, and because it is not threaded, all connectors and couplings are of the threadless type.

358.6 Listing Requirement

EMT, factory elbows, and associated fittings shall be listed.

Part II. Installation

358.10 Use

- (A) **Exposed and Concealed.** EMT can be installed exposed or concealed.
- (B) **Corrosion Protection.** EMT, elbows, couplings, and fittings can be installed in concrete, in direct contact with the earth, or in areas subject to severe corrosive influences where protected by corrosion protection and judged suitable for the condition. See 300.6.

CAUTION: Supplementary coatings for corrosion protection have not been investigated by a product testing and listing agency, and these coatings are known to cause cancer in laboratory animals.

- (C) **Wet Locations.** All support fittings, such as screws, straps, etc. installed in a wet location shall be made of corrosion-resistant material, or they shall be protected by a corrosion-resistant coating. See 300.6.

358.12 Uses Not Permitted

- (1) Where, during installation or afterward, it will be subject to severe physical damage.
- (2) Where protected from corrosion solely by enamel.
- (3) In cinder concrete or cinder fill where subject to permanent moisture, unless protected on all sides by a layer of noncinder concrete at least 2 in. thick, or unless the tubing is at least 18 in. under the fill.
- (4) In any hazardous location, except as permitted by 502.4, 503.3, and 504.20.
- (5) For the support of luminaires or other equipment, except conduit bodies no larger than the largest trade size of the tubing can be supported to the raceway. Figure 358-1
- (6) Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action.

Exception: Aluminum fittings on steel EMT and steel fittings on aluminum EMT are permitted.

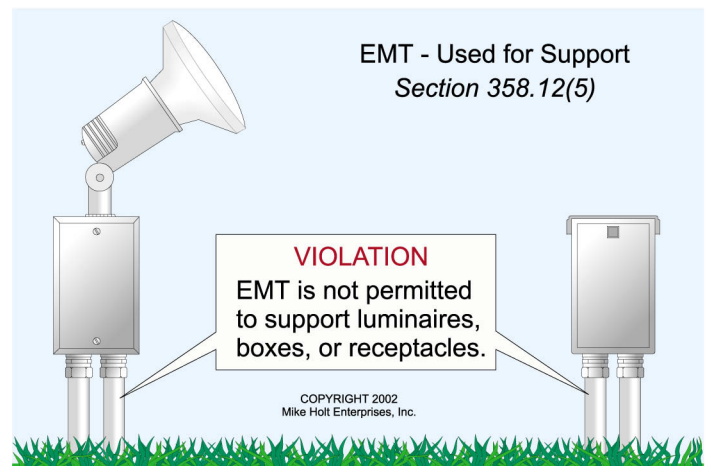


Figure 358-1



Chapter 4 – Equipment for General Use

Article 400 – Flexible Cords

This article covers the general requirements, applications, and construction specifications for flexible cords and flexible cables.

Article 404 – Switches

The requirements of Article 404 apply to switches of all types. These include snap (toggle) switches, dimmers, fan switches, knife switches, circuit breakers used as switches, and automatic switches such as time clocks and timers, including switches and circuit breakers used for disconnecting means.

Article 406 – Receptacles, Cord Connectors, and Attachment Plugs (Caps)

This article covers the rating, type, and installation of receptacles, cord connectors, and attachment plugs (cord caps).

Article 408 – Switchboards and Panelboards

Article 408 covers the specific requirements for switchboards, panelboards, and distribution boards that control light and power circuits.

Article 422 – Appliances

Article 422 covers electric appliances used in any occupancy.

Article 424 – Fixed Electric Space-Heating Equipment

This article covers fixed electric equipment used for space heating. For the purpose of this article, heating equipment shall include heating cable, unit heaters, boilers, central systems, or other approved fixed electric space-heating equipment. This article shall not apply to process heating and room air conditioning.

Article 430 – Motors And Motor Control Centers

Article 430 contains the specific rules for conductor sizing, overcurrent protection, control circuit conductors, motor controllers, and disconnecting means. The installation requirements for motor control centers are covered in 110.26(f) and air-conditioning and refrigerating equipment are covered in Article 440.

Article 440 – Air-Conditioning and Refrigerating Equipment

This article applies to electrically driven air-conditioning and refrigeration equipment that has a hermetic refrigerant motor compressor. The rules in this article are in addition to, or amend, the rules in Article 430 and other articles.

Article 445 – Generators

This article contains the electrical installation requirements for generators such as where generators can be installed, nameplate markings, conductor ampacity, and disconnecting means.

Article 450 – Transformers

This article covers the installation of all transformers.

Article 460 – Capacitors

This article covers the installation of capacitors, including those in hazardous (classified) locations as modified by Articles 501 through 503.

Article 440

1. Article 440 applies to electric motor-driven air-conditioning and refrigerating equipment that has a hermetic refrigerant motor compressor.
(a) True (b) False
2. The disconnecting means for air-conditioning and refrigerating equipment must be _____ from the air-conditioning or refrigerating equipment.
(a) readily accessible (b) within sight (c) a or b (d) a and b
3. Disconnecting means must be located within sight from and readily accessible from the air-conditioning or refrigerating equipment. The disconnecting means can be installed _____ the air-conditioning or refrigerating equipment, but not on panels that are designed to allow access to the air-conditioning or refrigeration equipment.
(a) on (b) within (c) a or b (d) none of these
4. The rating of the branch-circuit, short-circuit and ground-fault protection device for an individual motor-compressor shall not exceed _____ percent of the rated-load current or branch-circuit selection current, whichever is greater, if the protection device will carry the starting current of the motor.
(a) 100 (b) 125 (c) 175 (d) none of these
5. The attachment plug and receptacle shall not exceed _____ amperes at 250V for a cord-and-plug-connected air-conditioning motor-compressor.
(a) 15 (b) 20 (c) 30 (d) 40
6. The total rating of a plug-connected room air conditioner, connected to the same branch circuit where lighting units or other appliances are also supplied, shall not exceed _____ percent of the branch-circuit rating.
(a) 80 (b) 70 (c) 50 (d) 40
7. When supplying a 120V rated (nominal) room air conditioner, the length of the flexible supply cord shall not exceed _____.
(a) 4 ft (b) 6 ft (c) 8 ft (d) 10 ft