

# Class I Hazardous Locations

## INTRODUCTION TO ARTICLE 501—CLASS I HAZARDOUS LOCATIONS

If sufficient flammable gases, or vapors or flammable liquids are present to produce an explosive or ignitable mixture, you have a Class I location. Examples of such locations include fuel storage areas, certain solvent storage areas, grain processing (where hexane is used), plastic extrusion where oil removal is part of the process, refineries, and paint storage areas.

Article 500 contained a general background on hazardous locations as well as describing the differences between Class I, II, and III locations and the differences between Division 1 and Division 2 in each of the three classifications.

Article 501 contains the actual Class I, Division 1 and Division 2 installation requirements, including wiring methods, seals, and specific equipment requirements.

## PART I. GENERAL

**501.1 Scope.** Article 501 covers requirements for electrical and electronic equipment and wiring in Class I, Division 1 and 2 locations where flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors may be present in the air and in quantities sufficient to produce explosive or ignitable mixtures [500.5(B)].

## PART II. WIRING

### 501.10 Wiring Methods.

#### (A) Class I, Division 1. Figure 501-1

(1) **General.** Only the following wiring methods are permitted within a Class I, Division 1 location.

- (a) Threaded rigid metal conduit or intermediate metal conduit with explosionproof fittings.
- (b) MI cable with termination fittings listed for the location.
- (c) MC-HL cable containing a separate equipment grounding conductor, with fittings listed for a Class I, Division 1 location in industrial establishments with restricted public access where only qualified persons will service the installation. **Figure 501-2**

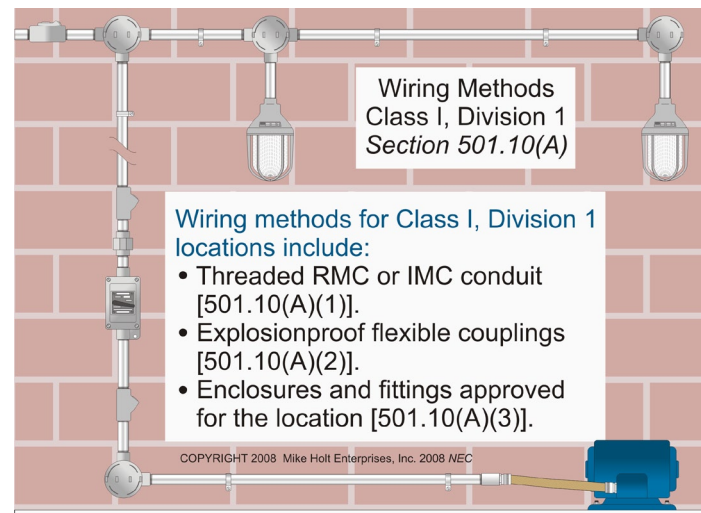


Figure 501-1

**Author's Comment:** Article 100 defines a "Qualified Person" as one who has skills and knowledge related to the construction and operation of the equipment and has received safety training on the hazards involved.

- (d) ITC-HL cable with fittings listed for a Class I, Division 1 location is permitted in industrial establishments where only qualified persons will service the installation.