

ARTICLE 500

HAZARDOUS (CLASSIFIED) LOCATIONS

Introduction to Article 500—Hazardous (Classified) Locations

This Article contains the general requirements applicable to all hazardous (classified) locations. A hazardous (classified) location is an area where the possibility of fire or explosion exists due to the presence of flammable or combustible liquid-produced vapors, flammable gases, combustible dusts, or easily ignitable fibers/flyings.

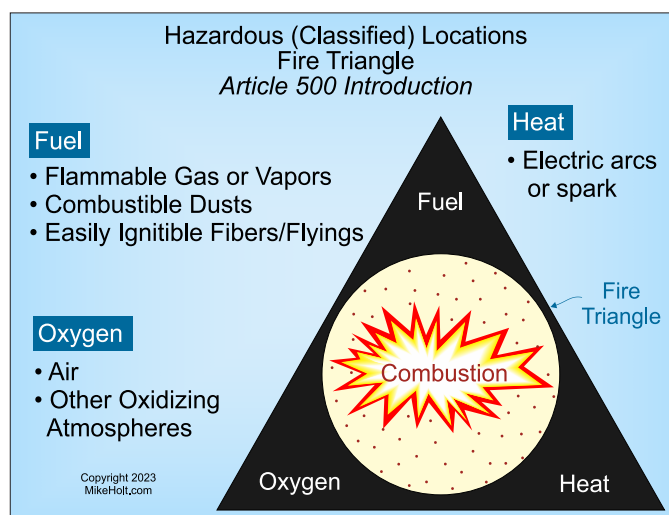
Article 500 provides the general rules for Article 501 (Class I Locations), Article 502 (Class II Locations), and Article 503 (Class III Locations). You will notice when studying this article that there are many Informational Notes. Although these notes are not *NEC* requirements [90.5(C)], they contain information that is helpful when trying to understand the context of the related *NEC* rules.

Fire and explosion hazards require three primary components to present a danger. The Fire Triangle (fuel, oxygen, and energy source) helps illustrate the concept of how combustion occurs so we can better understand the reasons behind the *NEC* requirements in Chapter 5.

►Figure 500–1

- **Fuel.** Flammable gases or vapors, combustible dusts, and easily ignitable fibers/flyings.
- **Oxygen.** Air and oxidizing atmospheres.
- **Ignition Source (Heat).** Electric arcs or sparks, heat-producing equipment such as luminaires and motors, failure of transformers, coils, or solenoids, as well as sparks caused by metal tools dropping on metal surfaces.

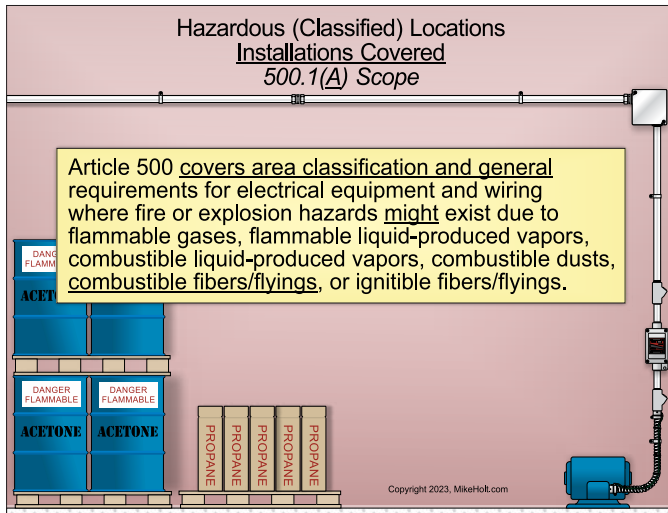
Many of the illustrations in Chapter 5 use two shades of red to identify a division location (darker red for Division 1 and lighter red to identify Division 2). In some cases, these color schemes are used as a background color to help you tell if the illustration covers Division 1, Division 2, or both (split color background).



►Figure 500–1

500.1 Scope—Articles 500 Through 503

(A) Installations Covered. Article 500 covers area classification and general requirements for electrical equipment and wiring where fire or explosion hazards might exist due to flammable gases, flammable liquid-produced vapors, combustible liquid-produced vapors, combustible dusts, combustible fibers/flyings, or ignitable fibers/flyings. Specific requirements are in: ▶ [Figure 500-2](#)



▶ [Figure 500-2](#)

- (1) Article 501. Class I—Flammable Gases or Flammable or Combustible Liquid-Produced Vapors
- (2) Article 502. Class II—Combustible Dust
- (3) Article 503. Class III—Combustible or Ignitable Fibers/Flyings

Author's Comment:

- ▶ Article 500 provides information related to the classifications [500.5], material groups [500.6], protection techniques [500.7], and equipment types [500.8] that are unique and required for Class I, Class II, and Class III locations. Articles 501, 502, and 503 cover the specific wiring requirements in hazardous (classified) areas.

Articles containing installation requirements for hazardous (classified) locations in special occupancies include:

- ▶ Article 511. Commercial Garages, Repair and Storage
- ▶ Article 514. Motor Fuel Dispensing Facilities