

International Electrotechnical Committee (IEC)

The IEC is composed of approximately 40 countries including the United States. The purpose of the IEC is to establish standards for a wide variety of electrical products with the intent of encouraging international trade.

The IEC has assigned a technical committee, TC 31, to develop recommendations covering equipment, testing procedures and classification standards for areas where the potential for explosion exists because of flammable or explosive material present in the atmosphere.

Recommendations were based on explosion and ignition principles similar to those used to develop Articles 500-503 of the National Electrical Code. They can be found in IEC Publication 79, entitled, "Electrical Apparatus for Explosive Gas Atmospheres." This publication consists of several parts covering various apparatuses intended for use in hazardous locations. It also defines the guidelines for classifying hazardous areas. Instead of using Classes and Divisions, the areas are defined in terms of zones:

- ZONE 0 - An area in which an explosive gas-air mixture is continuously present or present for long periods. Generally, most industrial users try to keep all electrical equipment out of Zone 0 areas.
- ZONE 1 - An area in which an explosive gas-air mixture is likely to occur in normal operations.
- ZONE 2 - An area in which an explosive gas-air mixture is not likely to occur and if it does, it is only for a short period of time.
- ZONE 10 - An explosive atmosphere, resulting from dust which is present continuously or for long periods of time.
- ZONE 11 - A short-lived explosive dust atmosphere from unsettling dust deposits.