
1 Purpose

This standard recommends procedures for classifying locations made hazardous by the presence of a cloud or blanket of combustible dust. It conforms with the U.S. *National Electrical Code*® (*NEC*®)* and the *Canadian Electrical Code (CEC)*, and is intended to expand and clarify both.

2 Scope

This standard refers only to combustible mixtures created by dusts — such as agricultural, carbonaceous, plastic, chemical, and metal dusts. Such materials are classified in *NEC*® Article 500 as Class II, Groups E, F, and G.

This standard classifies a location based on its dust cloud concentration, its accumulated combustible dust layer thickness, and its dust bulk resistivity; it also contains references to, and data on, the explosivity of common dusts, as well as references to laboratory equipment and test procedures for evaluating the explosivity of dusts.

This standard is intended for use by persons trained in the design and installation of instrument systems and by inspection authorities in the approval of such installations.

NOTE: This standard is not intended to address hazards created by the emission of Class I combustible gases from combustible dusts, e.g., the emission of methane from freshly crushed coal.

3 Definitions

Combustible dusts: Dusts which (when mixed with air in certain proportions) can be ignited and will propagate flame.

Combustible dust layer: Any surface accumulation of combustible dust that is large enough to propagate flame or will degrade and ignite.

Dust: Any finely divided solid material 420 μ m or smaller in diameter (material passing a U.S. No. 40 Standard Sieve).

NOTE: *Larger-sized particles can also cause explosions — see References 4 and 15.*

Minimum cloud ignition temperature: The minimum temperature at which a combustible dust atmosphere will autoignite and propagate an explosion.

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