PARAMOUNT INDUSTRIAL LIGHTING

NEC Hazardous Location Definitions

The following definitions are from the 2023 National Electrical Code. Consult the National Electrical Code NFPA 70 for up-to-date information.

Class I

Class I Division 1:

A Class I Division 1 location is a location

1) In which ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors can exist under normal operating conditions, or

2) In which ignitable concentrations of such flammable gases, flammable liquid-produced vapors, or combustible liquids above their flash points may exist frequently because of repair or maintenance operations or because of leakage, or

3) In which breakdown or faulty operation of equipment or processes might release ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition.

Class I Division 2:

A Class I Division 2 location is a location

1) In which volatile flammable gases, flammable liquid- produced vapors, or combustible liquid-produced vapors are handled, processed, or used, but in which the liquids, vapors, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems or in case of abnormal operation of equipment, or

2) In which ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid- produced vapors are normally prevented by positive mechanical ventilation and which might become hazardous through failure or abnormal operation of the ventilating equipment, or

3) That is adjacent to a Class I Division 1 location, and to which ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors above their flash points might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

Class II

Class II Division 1:

A Class II Division 1 location is a location

1) In which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures, or

2) Where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electrical equipment, through operation or protection devices, or from other causes, or

3) In which Group E combustible dusts may be present in quantities sufficient to be hazardous.

Class II Division 2:

A Class II Division 2 location is a location

1) In which combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures; or

2) Where combustible dust accumulations are present but are normally insufficient to interfere with the normal insufficient to interfere with normal operation of electrical equipment or other apparatus, but could as a result of infrequent malfunctioning of handling or processing equipment become suspended in the air; or

3) In which combustible dust accumulations on, in, or in the vicinity of the electrical equipment could be sufficient to interfere with the safe dissipation of heat from electrical equipment, or could be ignitible by abnormal operation or failure of electrical equipment.

Class III

Class III Division 1:

1) A Class III, Division 1 location is a location in which easily ignitible fibers/flyings are handled, manufactured, or used.

Class III Division 2:

2) A Class III, Divison 2 location is a location in which easily ignitible fibers/flyings are stored or handled other than in the process of manufacture.

NOTE: Luminaires manufactured by Paramount for Class III locations carry a Class II, Division 2, Group G label issued by Underwriters Laboratories.

Group Classifications

For a complete list of materials in these group classifications, please see the following two pages.

(1) Group A (Class I) Acetylene

(2) Group B (Class I)
Flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value less than or equal to 0.45 mm or a minimum igniting current ratio (MIC ratio) less than or equal to 0.40. (Typical Class I group B material is hydrogen.)

(3) Group C (Class I)
Flammable Gas, flammable liquid-produced vapor, or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.45 mm and less than or equal to 0.75 mm, or minimum igniting current ratio (MIC ratio) greater than 0.40 an d less than or equal to 0.80. (Typical Class I group C material is ethylene.)

(4) Group D (Class I)
Flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.75 mm or a minimum igniting current ratio (MIC ratio) greater than 0.80. (Typical Class I group D material is propane.)

Class II Group Classifications

(1) Group E (Class II)
Atmospheres containing combustible metal dusts, including aluminum, magnesium, and their commercial alloys, or other combustible dusts whose particle size, abrasiveness, and conductivity present similar hazards in the use of electrical equipment.

(2) Group F (Class II)
Atmospheres containing combustible carbonaceous dusts that have more than 8 percent total entrapped volatiles or that have been sensitized by other materials so that they present an explosion hazard. Coal, carbon black, charcoal, and coke dusts are examples of carbonaceous dusts.

(3) Group G (Class II)
Atmospheres containing combustible dusts not included in Group E or F, including flour, grain, wood, plastic, and chemicals.

Definitions taken from National Electrical Code 2023 Edition