



Explosion proof classifications vary, depending on the type of flammable materials or substances are present in the location. According to NEC standards, explosion proof categories include Class I, Class II and Class III. Class I and Class II can further be broken down into Division 1 and Division 2.

Below takes a closer look at Class I and Class II explosion proof classifications for industrial lighting systems.

Class I, Division 1 and 2

A Class I environment is a location wherein combustible gases or vapors may exist in the air, at a level that could result in unwanted explosions or ignitions. A Class I, Division 1 classification is reserved for work sites that host flammable gases or vapors during normal operation/on a daily basis. On the other hand, a Class I, Division 2 classification is suitable for facilities that are not likely to contain flammable gases or vapors during normal operating conditions, but may exist temporarily or periodically. **Moreover, this division pertains to an area next to a Division 1 location without adequate barriers.**

Article NEC 500-503 suggests Class I entails specific materials under its category, which is classified as Groups A, B, C or D. Examples of substances that fit into the Class I category: acetylene (Group A), hydrogen (Group B), ethyl ether (Group C) and methane (Group D).

Class II, Division 1 and 2

A Class II classification pertains to a flammable environment wherein combustible dust may exist in the air, at levels that could produce ignitions or fatal explosions. **In order for the material to be classified as a 'flammable dust' it first must be a fine solid no larger than 420 microns and must be capable of passing through a #40 sieve.**

A Class II, Division 1 location is an area wherein flammable dust is consistently present during operations. By comparison, a Class II, Division 2 location is a facility that does not normally contain concentrated amounts of explosive dust during operations.

Like Class I, this classification includes the following groups: Group E, F or G. Examples of Class II combustible dust: powdered metals (Group E), carbon black/coal dust (Group F) and grain/flour (Group G).

Class I and II Explosion Proof Lights

Regardless of the classification, most explosion proof lights feature non-sparking construction and sealed housings to prevent interactions with volatile substances. When selecting lights for explosion proof environments, it is important to take note of the flammable materials present at the facility – **both the type and concentration levels.** Such information will properly guide you to the required Class, Division and Group.

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