

Summary of Hazardous Class & Division Ratings

Hazardous locations are classified in three ways by the *National Electrical Code*: TYPE, CONDITION, and NATURE.

There are three *types* of hazardous conditions: Class I - gas and vapor, Class II - dust, and Class III - fibers and flyings.

There are two kinds of hazardous *conditions*: Division 1 - normal, and Division 2 - abnormal.

And finally, there is the nature of the hazardous substance . . . where we find Groups A, B, C, and D in Class I locations, and, in Class II locations: Groups E, F, and G.

Let's illustrate our Code "translation" with an example. How would we classify a storage area where LP gas is contained in closed tanks? LP gas is a Class I substance (gas or vapor). It's Division 2 because it would only be in the atmosphere if an accidental rupture or leakage occurred, and it is Group D material.

The table below summarizes the various hazardous (classified) locations.

Summary of Class I, II, III Hazardous Locations			
CLASSES	GROUPS	DIVISIONS	
		1	2
I Gases, vapors, and liquids (Art. 501)	A: Acetylene B: Hydrogen, etc. C: Ether, etc. D: Hydrocarbons, fuels, solvents, etc.	Normally explosive and hazardous	Not normally present in an explosive concentration (but may accidentally exist)
II Dusts (Art. 502)	E: Metal dusts (conductive,* and explosive) F: Carbon dusts (some are conductive,* and all are explosive) G: Flour, starch, grain, combustible plastic or chemical dust (explosive)	Ignitable quantities of dust normally are or may be in suspension, or conductive dust may be present	Dust not normally suspended in an ignitable concentration (but may accidentally exist). Dust layers are present.
III Fibers and flyings (Art. 503)	Textiles, wood-working, etc. (easily ignitable, but not likely to be explosive)	Handled or used in manufacturing	Stored or handled in storage (exclusive of manufacturing)

*NOTE: Electrically conductive dusts are dusts with a resistivity less than 10⁵ ohm-centimeter.