

- 2) For Class I, Division 1 or 2 equipment, the specific gas shall be permitted to be marked in accordance with one or more of the following atmospheric group designations:
 - a) Group A, consisting of atmospheres containing acetylene;
 - b) Group B, consisting of atmospheres containing butadiene, ethylene oxide, hydrogen (or gases or vapours equivalent in hazard to hydrogen, such as manufactured gas), or propylene oxide;
 - c) Group C, consisting of atmospheres containing acetaldehyde, cyclopropane, diethyl ether, ethylene, hydrogen sulphide, or unsymmetrical dimethyl hydrazine (UDMH), or other gases or vapours of equivalent hazard; or
 - d) Group D, consisting of atmospheres containing acetone, acrylonitrile, alcohol, ammonia, benzene, benzol, butane, ethylene dichloride, gasoline, hexane, isoprene, lacquer solvent vapours, naphtha, natural gas, propane, propylene, styrene, vinyl acetate, vinyl chloride, xylenes, or other gases or vapours of equivalent hazard.
- 3) Notwithstanding Subrule 2) b), where the atmosphere contains
 - a) butadiene, Group D equipment shall be permitted to be used if such equipment is isolated in accordance with Rule [J18-108 1\)](#) by sealing all conduit 16 trade size or larger; or
 - b) ethylene oxide or propylene oxide, Group C equipment shall be permitted to be used if such equipment is isolated in accordance with Rule [J18-108 1\)](#) by sealing all conduit 16 trade size or larger.
- 4) For equipment marked for Class II locations, markings for the specific dust shall be permitted to be indicated by one or more of the following atmospheric group designations:
 - a) Group E, consisting of atmospheres containing combustible metal dust, including aluminum, magnesium, and their commercial alloys, and other metals of similarly hazardous characteristics;
 - b) Group F, consisting of atmospheres containing carbon black, coal, or coke dust; or
 - c) Group G, consisting of atmospheres containing flour, starch, or grain dust, and other dusts of similarly hazardous characteristics.
- Δ 5) Where equipment is marked for use in Zone locations but will be used in locations classified according to the Class/Division system as permitted by Table [18](#), the applicable Group of the Zone system shall correspond to the equivalent Group within the Class/Division system as specified in Table [18A](#).

J18-052 Marking (see Annex [JB](#))

Electrical equipment installed in Class I, II, or III hazardous locations shall have markings that are suitable for the Class and Division in which the equipment is installed.

J18-054 Temperature (see Annex [JB](#))

- 1) In Class I locations, the maximum surface temperature rating marked on equipment shall not exceed the minimum ignition temperature determined for the hazardous location in which the equipment is installed.
- 2) In Class II locations, the maximum surface temperature rating marked on equipment shall not exceed the lower of the dust cloud or dust layer ignition temperature determined for the hazardous location in which the equipment is installed.
- 3) In Class II locations, for organic dusts that may dehydrate or carbonize, the maximum surface temperature rating marked on equipment shall not exceed the lower of 165 °C or the dust layer or dust cloud ignition temperature determined for the hazardous location in which the equipment is installed.
- 4) In Class III locations, the maximum surface temperature rating marked on equipment shall not exceed 165 °C for equipment that is not subject to overloading and 120 °C for equipment (such as motors or power transformers) that may be overloaded.