

HAZARDOUS LOCATIONS INFORMATION SHEET

HAZARDOUS LOCATIONS MARKINGS

MARKINGS FOR NORTH AMERICA	
OPTION A - ZONE SYSTEM Ex ia IIC T4 (Canada) Class I Zone 0 AEx ia IIC T4 (U.S.)	
Flammable Gas or Vapor	→ Class I
Area Classification	→ Zone 0
Conformity to U.S. Requirements	→ A
Explosion Protected	→ Ex
Protection Method (Intrinsic Safety)	→ ia
Gas Group (Acetylene & Hydrogen)	→ IIC
Temperature Class	→ T4
OPTION B - DIVISION SYSTEM Class I, Division I, Groups A,B,C,D; T4	
Flammable Gas or Vapor	→ Class I
Area Classification	→ Division I
Gas Group	→ Groups A, B, C, D
A: acetylene B: hydrogen C: ethylene D: propane	
Temperature Code	→ T4

AREA CLASSIFICATION – DIVISION VERSUS ZONE

TYPE OF AREA	NEC AND CEC (NORTH AMERICA)	CENELEC AND IEC
Continuous Hazard	Division 1 or Zone 0/Zone 20	Zone 0/Zone 20
Intermittent Hazard	Division 1 or Zone 1/Zone 21	Zone 1/Zone 21
Hazard Under Abnormal Conditions	Division 2 or Zone 2/Zone 22	Zone 2/Zone 22

TEMPERATURE CLASS FOR GROUP II APPLICATIONS

MAX. SURFACE TEMP.		TEMPERATURE CLASS (T CODE)
°C	°F	
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

APPARATUS GROUPING

TYPICAL GAS/DUST/FIBERS/FLYINGS	US (NEC) CANADA (CEC)	US (NEC) CANADA (CEC) IEC, CENELEC
Acetylene	Class I, Group A	Group IIC
Hydrogen	Class I, Group B	
Ethylene	Class I, Group C	Group IIB
Propane	Class I, Group D	Group IIA
Methane	Gaseous Mines*	Group I*
Magnesium	Class II, Group E	IEC, CENELEC do not subdivide by material types
Coal	Class II, Group F	
Grain	Class II, Group G	
Cotton	Class III	

* Not within scope of NEC or CEC
Class I – Gas/Vapor, Class II – Dust, Class III – Fibers/Flyings

EXPLOSIVE MATERIALS IN EACH HAZARDOUS GROUP

GROUP	HAZARDOUS MATERIAL IN SURROUNDING ATMOSPHERE	MAXIMUM EXPERIMENTAL SAFE GAP (MESG)
Group A	Acetylene	-
Group B	Hydrogen, Butadiene, Ethylene Oxide, Propylene Oxide, Acrolein	≤ 0.45 mm
Group C	Carbon Monoxide, Ether, Hydrogen Sulfide, Morpholine, Cyclopropane, Ethyl, Acetaldehyde, Ethylene, Isoprene	> 0.45mm; AND ≤ 0.75mm
Group D	Gasoline, Acetone, Ammonia, Benzene, Butane, Ethanol, Hexane, Methanol, Methane, Vinyl Chloride, Natural Gas, Naphtha, Propane	> 0.75 mm
Group E	Combustible Metal Dusts: Aluminum, Magnesium, Bronze, Chromium, Titanium, Zinc	-
Group F	Carbonaceous Dusts: Carbon Black, Coal Black, Charcoal, Coal, Coke Dust	-
Group G	Flour, Grain, Starch, Sugar, Wood, Plastics, Chemicals	-

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