A.3 Areas Classification Comparison (Class and Zone)

Two different standards for hazardous area classification can be compared and summarized as tables below:

Comparison of areas classification for Class and Zone

Explosive Atmospheres	NEC or CEC	IEC or EN
Continuously, for long period, frequently	Class I Div.1 (gas)	Zone 0 (gas)
	Class II Div.1 (dust)	Zone 20 (dust/ fiber)
	Class III Div.1 (fibers/ flyings)	
Occasionally	Class I Div.1 (gas)	Zone 1 (gas)
	Class II Div.1 (dust)	Zone 21 (dust/ fiber)
	Class III Div.1 (fibers/ flyings)	
Not occur in normal operation, only for short period	Class I Div.2 (gas)	Zone 2 (gas)
	Class II Div.2 (dust)	Zone 22 (dust/ fiber)
	Class III Div.2 (fibers/ flyings)	

Comparison of representative gas groups for NFPA and IEC

Representative Gases	Explosion Group/ NFPA 497	Explosion Group/ IEC 60079-20
Acetylene	A	IIC
Carbon disulphide	B	IIC
Hydrogen	B	IIC
Ethylene oxide	B(C)*	IIB
Hydrogen sulfide	C	IIB
Ethylene	C	IIB
Acrylonitrile	D	IIB
Industrial methane	D	IIA
Propane	D	IIA
Ethyl acetate	D	IIA

* Group classification shown in parentheses is permitted if equipment is isolated by sealing in all conduits ½ inch or larger.

Comparison of surface temperature classification NEC and IEC

Temperature class NEC art.500, CEC sec.18	Temperature class IEC, EN, NEC art.505	Maximum permissible surface temperature of equipment (°C)	Ignition temperature of flammable substance (°C)
T1	T1	450	450 < Ign. Temp.
T2	T2	300	300 < Ign. Temp.
T2A		280	280 < Ign. Temp.
T2B		260	260 < Ign. Temp.
T2C		230	230 < Ign. Temp.
T2D		215	215 < Ign. Temp.
T3	T3	200	200 < Ign. Temp.
T3A		180	180 < Ign. Temp.
T3B		165	165 < Ign. Temp.
T3C		160	160 < Ign. Temp.
T4	T4	135	135 < Ign. Temp.
T4A		120	120 < Ign. Temp.
T5	T5	100	100 < Ign. Temp.
T6	T6	85	85 < Ign. Temp.