

Quick Reference Guide

GAS GROUPINGS

Gas, Dust or Fiber	NEC 505 IEC/ CENELEC	NEC 500
Acetylene	Group IIC	Class I/Group A
Hydrogen	Group IIB	Class I/Group B
Ethylene	Group IIB	Class I/Group C
Propane	Group IIA	Class I/Group D
Methane	Group I	Class I/Group D
Metal Dust	None	Class II/Group E
Coal Dust	None	Class II/Group F
Grain Dust	None	Class II/Group G
Fibers	None	Class III

INGRESS PROTECTION

	First Number Protection against Solid Bodies	Second Number Protection against Liquid
0	No protection	No protection
1	Objects greater than 50 mm	Vertically dripping water
2	Objects greater than 12mm	75-90 Deg. dripping water
3	Objects greater than 2.5mm	Sprayed water
4	Objects greater than 1mm	Splashed water
5	Dust-protected	Water jets
6	Dust-tight	Heavy Seas
7		Effects of Immersion
8		Indefinite Immersion

AREA CLASSIFICATIONS

	Flammable Material Present Continuously	Flammable Material Present Intermittently	Flammable Material Present Abnormally
IEC/CENELEC	Zone 0	Zone 1	Zone 2
NEC 505	Zone 0	Zone 1	Zone 2
NEC 500	Division 1	Division 1	Division 2

METHODS OF PROTECTION

Protection Type	Code	Permitted Use	Standard	Principle
Explosionproof	XP	Division 1, 2	UL 1203 FM 3615	Containment
Flameproof	AEx d EEx d Ex d	Zone 1, 2 Zone 1, 2 Zone 1, 2	UL 2279 EN 50 018 IEC 79-1 CSA-E79-1-95	Containment
Increased Safety	AEx e EEx e Ex e	Zone 1, 2 Zone 1, 2 Zone 1, 2	UL 2279 EN 50 019 IEC 79-7 CSA-E79-7-95	No arcs, sparks or hot surfaces
Non-sparking	Ex nA	Zone 2	IEC 79-15 CSA-E79-15-95	No arcs, sparks or hot surfaces
Non-incendive	NI	Division 2	CSA-213-M1987	Energy Limitation
Intrinsic Safety	IS AEx ia AEx ib EXx ia EEx ib Ex ia Ex ib Ex ia Ex ib	Division 1, 2 Zone 0, 1, 2 Zone 1, 2 Zone 0, 1, 2 Zone 1, 2 Zone 0, 1, 2 Zone 1, 2 Zone 0, 1, 2 Zone 1, 2	UL 913 UL 2279 UL 2279 EN 50 020/39 EN 50 020/39 IEC 79-11 IEC 79-11 CSA-E79-11-95 CSA-E79-11-95	Energy Limitation
Pressurization	Type X Type Y Type Z EEx P Ex P Ex P	Division 1 Division 1 Division 2 Zone 1, 2 Zone 1, 2 Zone 1, 2	NFPA 496 NFPA 496 NFPA 496 EN 50 016 IEC 79-2 CSA-E79-2-95	Removal

ACRONYMS

CENELEC - European Committee for Electrotechnical Standardization

IEC - International Electrotechnical Commission

NEC - National Electrical Code

U.L. - Underwriters Laboratories

CSA - Canadian Standards Association

FM - Factory Mutual

BASEEFA - British Approvals Service for Electrical Apparatus in Flammable Atmospheres

NFPA - National Fire Protection Agency

ISO - International Organization for Standardization

T-TEMPERATURES

Maximum Surface Temperature	NEC 505 IEC CENELEC	NEC 500
450 Deg. C	T1	T1
300 Deg. C	T2	T2
280 Deg. C		T2A
260 Deg. C		T2B
230 Deg. C		T2C
215 Deg. C		T2D
200 Deg. C	T3	T3
180 Deg. C		T3A
165 Deg. C		T3B
160 Deg. C		T3C
135 Deg. C	T4	T4
120 Deg. C		T4A
100 Deg. C	T5	T5
85 Deg. C	T6	T6