EXPLOSIVE GAS ATMOSPHERES

(e.g. Class I Division System)

Includes flammable gases, flammable liquid-produced vapors, and combustible liquid-produced vapors

CONTINUED

Zone System Non-Electrical Equipment Protection Techniques (Equipment Protection Levels)

Area	Protection Techniques	Applicable Certification Documents: UL Mark	C-UL Mark	IECEx	ATEX
Zone 0	• Constructional safety, "c" (Ga)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Ga)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Ga)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Flameproof, "da" (Ga)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
Zone 1	• Constructional safety, "c" (Gb)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Gb)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Gb)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Flameproof, "db" (Gb)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
	• Pressurization, "pxb"/"pyb"(Gb)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Any Zone 0 technique	See above	See above	See above	See above
Zone 2	• Flow restricting enclosure, "fr"	—	—	—	EN 13463-2
	• Constructional safety, "c" (Gc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Gc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Gc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Flameproof, "dc" (Gc)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
	• Pressurization, "pzc" (Gc)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Any Zone 0 or 1 technique	See above	See above	See above	See above

Note 1: Zone 0, 1 and 2 general requirements are contained in ISO 80079-36 (IECEx) and EN ISO 80079-36 (ATEX), along with prUL 80079-36 (UL Mark) and prCSA 80079-36 (C-UL Mark) under development..

Note 2: Equipment Protection Levels (EPLs) are used to provide additional details regarding the level of protection against ignition in explosive atmospheres. EPLs are designated by a letter "G" for Gas, "D" for Dust or "M" for Mining, followed by a letter "a" for "very high", "b" for "high" or "c" for "enhanced" level of protection.

Note 3: Under the ATEX Directive (2014/34/EU), the marking of Categories is additionally required. ATEX Categories are similar to EPLs in function and designation as follows, ATEX Category 1G, 2G, 3G, 1D, 2D, 3D, M1, M2 = EPL Ga, Gb, Gc, Da, Db, Dc, Ma, Mb respectively.

Note 4: References in one area to "any" protection techniques from another area require these other area techniques to be for the same gas atmosphere; and with a suitable temperature class.

Note 5: The prefix "pr" in front of a standard number indicates a proposed new standard under development but not yet published.

EXPLOSIVE DUST ATMOSPHERES

(e.g. Class II & III Division Systems)

Includes combustible dusts and ignitible fibers/flyings

CONTINUED

Zone System Non-Electrical Equipment Protection Techniques (Equipment Protection Levels)

Area	Protection Techniques	Applicable Certification Documents: UL Mark	C-UL Mark	IECEx	ATEX
Zone 20	• Constructional safety, "c" (Da)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Da)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Da)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Enclosure, "ta" (Da)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
Zone 21	• Constructional safety, "c" (Db)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Db)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Db)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Pressurization, "pxb"/"pyb" (Db)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Enclosure, "tb" (Db)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
	• Any Zone 20 technique	See above	See above	See above	See above
Zone 22	• Flow restricting enclosure, "fr"	—	—	—	EN 13463-2
	• Constructional safety, "c" (Dc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Control of ignition source, "b" (Dc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Liquid immersion, "k" (Dc)	prUL 80079-37	prCSA 80079-37	ISO 80079-37	EN ISO 80079-37
	• Pressurization, "pzc" (Dc)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Enclosure, "tc" (Dc)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
	• Any Zone 20 or 21 technique	See above	See above	See above	See above

Note 1: Zone 20, 21 and 22 general requirements are contained in ISO 80079-36 (IECEx) and EN ISO 80079-36 (ATEX), along with prUL 80079-36 (UL Mark) and prCSA 80079-36 (C-UL Mark) under development..

Note 2: Equipment Protection Levels (EPLs) are used to provide additional details regarding the level of protection against ignition in explosive atmospheres. EPLs are designated by a letter "G" for Gas, "D" for Dust or "M" for Mining, followed by a letter "a" for "very high", "b" for "high" or "c" for "enhanced" level of protection.

Note 3: Under the ATEX Directive (2014/34/EU), the marking of Categories is additionally required. ATEX Categories are similar to EPLs in function and designation as follows, ATEX Category 1G, 2G, 3G, 1D, 2D, 3D, M1, M2 = EPL Ga, Gb, Gc, Da, Db, Dc, Ma, Mb respectively.

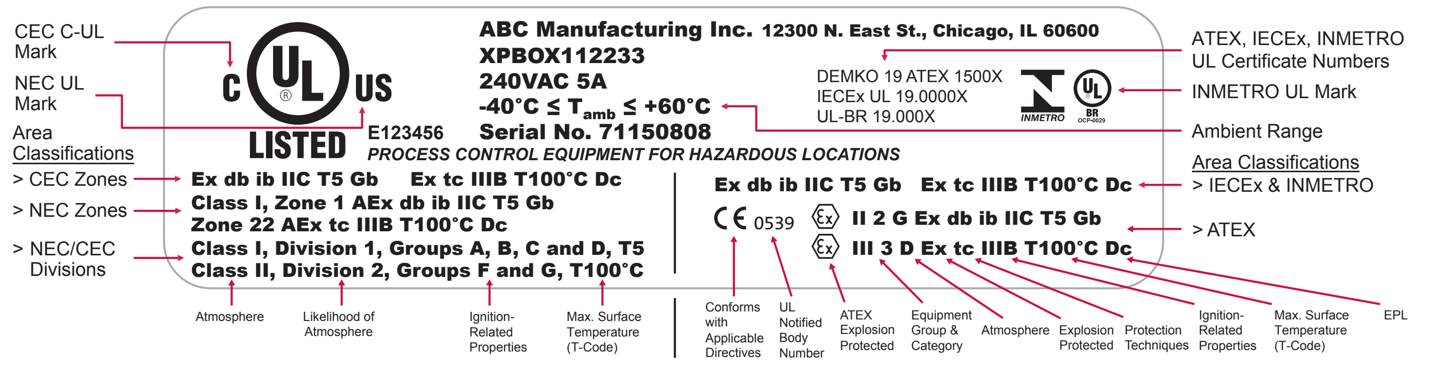
Note 4: References in one area to "any" protection techniques from another area require these other area techniques to be for the same dust atmosphere; and with a suitable temperature class.

Note 5: The prefix "pr" in front of a standard number indicates a proposed new standard under development but not yet published.

UL HAZARDOUS LOCATIONS SERVICES

The international preference in hazardous locations research, testing and certification for over 100 years

MARKINGS



INGRESS PROTECTION (IP) RATINGS

Comparison of IP Ratings

First numeral	Protection against access to hazardous parts by:	Protection against entry of solid objects:
0	No protection	No protection
1	The back of a hand	Objects greater than 50 mm
2	A finger	Objects greater than 12.5 mm
3	A tool	Objects greater than 2.5 mm
4	A wire	Objects greater than 1.0 mm
5	A wire	Dust-protected
6	A wire	Dust-tight

Second numeral	Protection against entry of water:
0	No protection
1	Vertically falling water drops
2	Vertically falling water drops when enclosure tilted up to 15°
3	Spraying water
4	Splashing water
5	Water jets
6	Powerful water jets
7	Temporary immersion in water
8	Continous immersion in water
9	High pressure and temperature water jets

EXPLOSIVE GAS ATMOSPHERES (e.g. Class I Division System)

Includes flammable gases, flammable liquid-produced vapors, and combustible liquid-produced vapors

Area Classification

Division 1:
Where ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors **can exist** under normal operating conditions.

Zone 0:
Where ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors **are present continuously or for long periods of time** under normal operating conditions.

Zone 1:
Where ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors **are likely to exist** under normal operating conditions.

Division 2:
Where ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors **are not likely to exist** under normal operating conditions.

Zone 2:
Where ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors **are not likely to exist** under normal operating conditions.

Groups

Division 1 and 2:

A	Acetylene
B	Hydrogen
C	Ethylene
D	Propane

Zone 0, 1 and 2:

IIC	Acetylene & Hydrogen
IIB+H2	Hydrogen
IIB	Ethylene
IIA	Propane

Temperature Classifications

Division 1 and 2:		Zone 0, 1 and 2:	
T1	≤450°C	**T1**	≤450°C
T2	≤300°C	**T2**	≤300°C
T2A	≤280°C	—	
T2B	≤260°C	—	
T2C	≤230°C	—	
T2D	≤215°C	—	
T3	≤200°C	**T3**	≤200°C
T3A	≤180°C	—	
T3B	≤165°C	—	
T3C	≤160°C	—	
T4	≤135°C	**T4**	≤135°C
T4A	≤120°C	—	
T5	≤100°C	**T5**	≤100°C
T6	≤ 85°C	**T6**	≤ 85°C

Division System Electrical Equipment Protection Techniques

Area	Protection Techniques	Applicable Certification Documents: UL Mark	C-UL Mark
Div. 1	• Intrinsic safety	ANSI/UL 913	CSA 157 or CSA 60079-11
	• Explosionproof	ANSI/UL 1203	CSA 30
	• Purged/pressurized, Type X or Y	ANSI/NFPA 496	ANSI/NFPA 496
	• Any Class I, Zone 0 technique	See Zone 0 techniques	See Zone 0 techniques
Div. 2	• Enclosed-break	ANSI/UL 121201	CSA 213
	• Hermetically-sealed	ANSI/UL 121201	CSA 213
	• Nonincendive	ANSI/UL 121201	CSA 213
	• Non-sparking	ANSI/UL 121201	CSA 213
	• Oil immersed	ANSI/UL 121201	CSA 213
	• Purged/pressurized, Type Z	ANSI/NFPA 496	ANSI/NFPA 496
	• Sealed	ANSI/UL 121201	CSA 213
	• Any Class I, Division 1 technique	See above	See above
	• Any Class I, Zone 0, 1 or 2 technique	See Zone techniques	See Zone techniques

Note 1: Class I, Division 1 intrinsically safe system requirements are contained in ANSI/UL 913 (UL Mark) and CSA 157 or CSA 60079-25 (C-UL Mark).
Note 2: References in one area to "any" protection techniques from another area require these other area techniques to be for the same gas atmosphere; and with a suitable temperature class.

Zone System Electrical Equipment Protection Techniques (Equipment Protection Levels)

Area	Protection Techniques (Equipment Protection Levels)	Applicable Certification Documents: UL Mark	C-UL Mark	IECEx	ATEX
Zone 0	• Flameproof, "da" (Ga)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
	• Intrinsic safety, "ia" (Ga)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Encapsulation, "ma" (Ga)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Ga)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Class I, Div 1 intrinsic safety	ANSI/UL 913	CSA 157	—	—
Zone 1	• Flameproof, "db" (Gb)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
	• Pressurization, "pxb"/"pyb" (Gb)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Powder filling, "q" (Gb)	ANSI/UL 60079-5	CSA 60079-5	IEC 60079-5	EN 60079-5
	• Liquid immersion, "ob" (Gb)	ANSI/UL 60079-6	CSA 60079-6	IEC 60079-6	EN 60079-6
	• Increased safety, "eb" (Gb)	ANSI/UL 60079-7	CSA 60079-7	IEC 60079-7	EN 60079-7
	• Intrinsic safety, "ib" (Gb)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Encapsulation, "mb" (Gb)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Gb)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Any Zone 0 technique	See above	See above	See above	See above
	• Any Class I, Div 1 technique	See CID1 techniques	See CID1 techniques	—	—
Zone 2	• Flameproof, "dc" (Gc)	ANSI/UL 60079-1	CSA 60079-1	IEC 60079-1	EN 60079-1
	• Pressurization, "pzc" (Gc)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Liquid immersion, "oc" (Gc)	ANSI/UL 60079-6	CSA 60079-6	IEC 60079-6	EN 60079-6
	• Increased safety, "ec" (Gc)	ANSI/UL 60079-7	CSA 60079-7	IEC 60079-7	EN 60079-7
	• Intrinsic safety, "ic" (Gc)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Enclosed-break, "nC" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Hermetically-sealed, "nC" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Nonincendive, "nC" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Non-sparking, "nA" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Restricted breathing, "nR" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Sealed, "nC" (Gc)	ANSI/UL 60079-15	CSA 60079-15	IEC 60079-15	EN 60079-15
	• Encapsulation, "mc" (Gc)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Gc)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Any Zone 0 or 1 technique	See above	See above	See above	See above
	• Any Class I, Div 1 or 2 technique	See Class I techniques	See Class I techniques	—	—

Note 1: Zone 0, 1 and 2 general requirements are contained in ANSI/UL 60079-0 (UL Mark), CSA 60079-0 (C-UL Mark), IEC 60079-0 (IECEx) and EN 60079-0 (ATEX).
Note 2: Zone 0, 1 and 2 intrinsically safe system requirements are contained in ANSI/UL 60079-25 (UL Mark), CSA 60079-25 (C-UL Mark), IEC 60079-25 (IECEx) and EN 60079-25 (ATEX).
Note 3: Alternative requirements for certain Zone 0 (Ga) applications are contained in ANSI/UL 60079-26 (UL Mark), CSA 60079-26 (C-UL Mark), IEC 60079-26 (IECEx) and EN 60079-26 (ATEX).
Note 4: Equipment Protection Levels (EPLs) are used to provide additional details regarding the level of protection against ignition in explosive atmospheres. EPLs are designated by a letter "G" for Gas, "D" for Dust or "M" for Mining, followed by a letter "a" for "very high", "b" for "high" or "c" for "enhanced" level of protection.
Note 5: Under the ATEX Directive (2014/34/EU), the marking of Categories is additionally required. ATEX Categories are similar to EPLs in function and designation as follows, ATEX Category 1G, 2G, 3G, 1D, 2D, 3D, M1, M2 = EPL Ga, Gb, Gc, Da, Db, Dc, Ma, Mb respectively.
Note 6: INMETRO certification requirements are determined by Portaria 179 as of 18 May 2010, with the associated Brazilian NBR Ex standards harmonized with the comparable IECEx standards noted above.
Note 7: References in one area to "any" protection techniques from another area require these other area techniques to be for the same gas atmosphere; and with a suitable temperature class.

CONTINUED ON BACK

UL.COM/HAZLOCAPP

UL.COM/HAZLOC

EXPLOSIVE DUST ATMOSPHERES (e.g. Class II & III Division Systems)

Includes combustible dusts and ignitible fibers/flyings

Area Classification

Class II, Division 1:
Where ignitible concentrations of combustible dust **are present** under normal operating conditions.

Zone 20:
Where ignitible concentrations of combustible dust or ignitible fibers/flyings **are present continuously or for long periods of time** under normal operating conditions.

Zone 21:
Where ignitible concentrations of combustible dust or ignitible fibers/flyings **are likely to exist occasionally** under normal operating conditions.

Class II, Division 2:
Where ignitible concentrations of combustible dust **are not present** under normal operating conditions.

Zone 22:
Where ignitible concentrations of combustible dust or ignitible fibers/flyings **are not likely to exist** under normal operating conditions.

Class III, Division 1:
Where easily ignitible fibers/flyings **are handled, manufactured, or used**.

Class III, Division 2:
Where easily ignitible fibers/flyings **are stored or handled other than in the process of manufacture.**

Groups

Class II, Division 1 and 2:

E	Metal dust — Div. 1 only
F	Carbonaceous dust
G	Non-conductive dust

Zone 20, 21 and 22:

IIIC	Conductive dust
IIIB	Non-conductive dust
IIIB	Non-conductive dust

Class III, Division 1 and 2: None.

Zone 20, 21 and 22:

IIIA	Combustible flyings

Temperature Classifications

Class II, Division 1 and 2:

T1	≤450°C	**T2D**	≤215°C	**T4**	≤135°C
T2	≤300°C	**T3**	≤200°C	**T4A**	≤120°C
T2A	≤280°C	**T3A**	≤180°C	**T5**	≤100°C
T2B	≤260°C	**T3B**	≤165°C	**T6**	≤ 85°C
T2C	≤230°C	**T3C**	≤160°C		

Zone 20, 21 and 22: None.
Note: For Zone 20, 21 and 22, equipment shall be marked to show the maximum surface temperature.

Class III, Division 1 and 2: None.
Note: Article 503 of the NEC, and Appendix J of the CE Code, limit the maximum surface temperature for Class III equipment to 165°C for equipment not subject to overloading and to 120°C for equipment that may be overloaded.

Division System Electrical Equipment Protection Techniques

Area	Protection Techniques	Applicable Certification Documents: UL Mark	C-UL Mark
Div. 1	• Intrinsic safety (Class II & III)	ANSI/UL 913	CSA 157 or CSA 60079-11
	• Dust-ignitionproof (Class II)	ANSI/UL 1203	CSA 25
	• Pressurized, Type X or Y (Class II)	ANSI/NFPA 496	ANSI/NFPA 496
	• Dusttight (Class III)	ANSI/UL 121201	CSA 213
	• Hermetically-sealed (Class III)	ANSI/UL 121201	CSA 213
	• Nonincendive (Class III)	ANSI/UL 121201	CSA 213
	• Sealed (Class III)	ANSI/UL 121201	CSA 213
	• Any Zone 20 technique (Class II & III)	See Zone 20 techniques	See Zone 20 techniques
Div. 2	• Dusttight (Class II)	ANSI/UL 121201	CSA 213
	• Hermetically-sealed (Class II)	ANSI/UL 121201	CSA 213
	• Nonincendive (Class II)	ANSI/UL 121201	CSA 213
	• Sealed (Class II)	ANSI/UL 121201	CSA 213
	• Pressurized, Type Z (Class II)	ANSI/NFPA 496	ANSI/NFPA 496
	• Any CIID1 or CIIID1 technique	See above	See above
	• Any Zone 20, 21, 22 tech (Class II & III)	See Zone techniques	See Zone techniques

Note 1: Class II and Class III, Division 1 intrinsically safe system requirements are contained in ANSI/UL 913 (UL Mark) and CSA 157 or CSA 60079-25 (C-UL Mark)
Note 2: References in one area to "any" protection techniques from another area require these other area techniques to be for the same dust atmosphere; and with a suitable temperature class.

Zone System Electrical Equipment Protection Techniques (Equipment Protection Levels)

Area	Protection Techniques (Equipment Protection Levels)	Applicable Certification Documents: UL Mark	C-UL Mark	IECEx	ATEX
Zone 20	• Enclosure, "ta" (Da)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
	• Intrinsic safety, "ia" (Da)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Encapsulation, "ma" (Da)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Da)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Any CIID1 technique	See CIID1 techniques	See CIID1 techniques	—	—
Zone 21	• Enclosure, "tb" (Db)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
	• Pressurization, "pxb"/"pyb"(Db)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Intrinsic safety, "ib" (Db)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Encapsulation, "mb" (Db)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Db)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Any Zone 20 technique	See above	See above	See above	See above
	• Any CIID1 technique	See CIID1 techniques	See CIID1 techniques	—	—
Zone 22	• Enclosure, "tc" (Dc)	ANSI/UL 60079-31	CSA 60079-31	IEC 60079-31	EN 60079-31
	• Pressurization, "pzc" (Dc)	ANSI/UL 60079-2	CSA 60079-2	IEC 60079-2	EN 60079-2
	• Intrinsic safety, "ic" (Dc)	ANSI/UL 60079-11	CSA 60079-11	IEC 60079-11	EN 60079-11
	• Encapsulation, "mc" (Dc)	ANSI/UL 60079-18	CSA 60079-18	IEC 60079-18	EN 60079-18
	• Optical radiation, "op" (Dc)	ANSI/UL 60079-28	CSA 60079-28	IEC 60079-28	EN 60079-28
	• Any Zone 20, 21 technique	See above	See above	See above	See above
	• Any CIID1, CIID2 technique	See Class II techniques	See Class II techniques	—	—

Note 1: Zone 20, 21 and 22 general requirements are contained in ANSI/UL 60079-0 (UL Mark), CSA 60079-0 (C-UL Mark), IEC 60079-0 (IECEx) and EN 60079-0 (ATEX).
Note 2: Zone 20, 21 and 22 intrinsically safe system requirements are contained in ANSI/UL 60079-25 (UL Mark), CSA 60079-25 (C-UL Mark), IEC 60079-25 (IECEx) and EN 60079-25 (ATEX).
Note 3: Equipment Protection Levels (EPLs) are used to provide additional details regarding the level of protection against ignition in explosive atmospheres. EPLs are designated by a letter "G" for Gas, "D" for Dust or "M" for Mining, followed by a letter "a" for "very high", "b" for "high" or "c" for "enhanced" level of protection.
Note 4: Under the ATEX Directive (2014/34/EU), the marking of Categories is additionally required. ATEX Categories are similar to EPLs in function and designation as follows, ATEX Category 1G, 2G, 3G, 1D, 2D, 3D, M1, M2 = EPL Ga, Gb, Gc, Da, Db, Dc, Ma, Mb respectively.
Note 5: INMETRO certification (INMETRO/UL-BR Mark) requirements are determined by Portaria 179 as of 18 May 2010, with the associated Brazilian NBR Ex standards harmonized with the comparable IEC Ex standards noted above.
Note 6: References in one area to "any" protection techniques from another area require these other area techniques to be for the same dust atmosphere; and with a suitable temperature class.

CONTINUED ON BACK