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ATEX MARKING

ATEX MARKING FOLLOWING THE DIRECTIVE 2014/34/UE

For an equipment to be used in gas/vapour/mist atmospheres	Ex	II	2	G
For an equipment to be used in dust atmospheres	Ex	II	3	D

Table listing the most current marking examples following the directive

CE marking and notified body's number	ATEX Marking	Group	Category	gas (G) dust (D)	explanation of the marking
CE XXXX* *When l'ISSeP is the notified body who checked the conformity based on unit verification , or who delivered the Quality Notification Assurance , the number to be printed just after the CE symbol is 0492	Ex				Protective system, for use in gas/vapour/mist/dust atmospheres
		I	M1		Mining products, group I, category M1
			M2		Mining products, group I, category M1
		II	1	G	Non mining product, group II, category 1 for use in gas/vapour/mist atmospheres
				D	Non mining product, group II, category 1 for use in dust atmosphere
			2	G	Non mining product, group II, category 2 for use in gas/vapour/mist atmospheres
				D	Non mining product, group II, category 2 for use in dust atmosphere
			3	G	Non mining product, group II, category 3 for use in gas/vapour/mist atmospheres
				D	Non mining product, group II, category 3 for use in dust atmosphere
			(1)	G D	Device according to Article 1(1)(b) of Directive 2014/34/EU in the non-hazardous area with intrinsically safe circuits of category "Ex ia", which can be connected e.g. to category 1 equipment
			2	G D	Category 2 equipment for use in potentially explosive atmosphere containing gas or dust
			(2)/2 (1)/1	G	An assembly, such as a gas detection system with more than one detection head, that is partly category 1 and category 2 formed by a safety device and an equipment. The safety device is intended for use outside the hazardous area and the equipment is intended for use inside hazardous area
			2(1)	G	Category 2 equipment containing a safety device for a category 1 equipment
			2(1)	G D	Same equipment for gas or dust potentially explosive atmosphere
			(2) (1)	G G	A safety device alone which ensures the safety against explosion for category 1 equipment and for another category 2 equipment
			3/3	D	A blower exhausting out of zone 22 and to be installed in zone 22
			1/2	G	A level gauge installed in the tank wall between zone 0 and zone 1
			(2) 3	G	An electrical field bus device affecting category 2 equipment installed in zone 2
			2/-	G	A ventilator exhausting out of zone 1 but to be installed outside potentially explosive atmospheres ,The directive has no provisions for marking in case of installation outside potentially explosive atmospheres
			2/3	G	A ventilator extracting out of zone 1 but to be installed in zone 2
			3/-	D	A screw conveyor conveying dust out of zone 22 but installed outside potentially explosive atmospheres, The directive has no provisions for marking in case
			-/2	D	A blower conveying no explosive atmosphere but to be installed in zone 21

Table of construction of certificate references by notified bodies

Certificate Reference					
ISSeP Notified body's name	## 2 last digits of the year	ATEX	YYYY certificate number	The certificate reference can be followed by the above signs:	
					No restriction
				X	User shall read user instructions for the special conditions of use
				U	Ex component not able to be used alone: partial UE assessment

Example: ISSeP16ATEX0198X

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ATEX MARKING

ATEX MARKING FOLLOWING THE STANDARD EN/IEC 60079-0 AND THE ATEX PROTECTION MODES

For an equipment to be used in gas/vapour/mist atmospheres	Ex	db eb	IIC	T6	Gb		-20°C≤Ta≤+40°C *
	protection mode coding following the table above						
For an equipment to be used in dust atmospheres	Ex	h tb	IIIC	T85°C	IP 68	Db	-40°C≤Ta≤+50°C
	protection mode coding following the table above						

Table summarizing the different ATEX protection modes

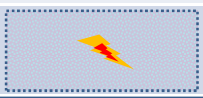
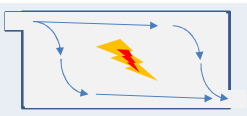
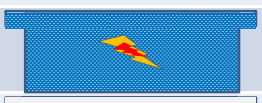
Protection type	Identification code						associated diagram	fundammental principle
	Gas			Dust				
Zone	0	1	2	20	21	22		
Equipment Category	1	2	3	1	2	3		
Appareils électriques								
general requirements EN/IEC 60079-0								General requirements for the construction rules and the tests of electrical equipment to be used in explosive atmosphere
Flameproof protection EN/IEC 60079-1	Ex da	Ex da Ex db	Ex da Ex db Ex dc					When a explosion occurs inside the enclosure, and that it resists to the pressure, the explosion doesn't propagate outside
Increased safety EN/IEC 60079-7		Ex eb	Ex eb Ex ec					Only applicable to components which don't generate neither electrical sparks nor excessive temperature with a power supply voltage <1kVV
Intrinsic safety EN/IEC 60079-11	Ex ia	Ex ia Ex ib	Ex ia Ex ib Ex ic	Ex ia	Ex ia Ex ib	Ex ia Ex ib		The limitation of the energy inside the circuit prevent the occurrence of excessive temperature, sparks or electric arcs
encapsulation EN/IEC 60079-18	Ex ma	Ex ma Ex mb	Ex ma Ex mb Ex mc	Ex ma	Ex ma Ex mb	Ex ma Ex mb Ex mc		The inflammation source is drown in a mass so that it could not propagate to explosive atmosphere
Non sparking EN/IEC 60079-15			Ex nAc Ex nRc Ex nCc					Application lightly simplified of different zone 2 protection modes "n" meaning non-sparking
Oil immersion EN/IEC 60079-6		Ex ob	Ex ob					The equipment or the components are immersed in oil and are this way excluded from explosive atmosphere
Pressurisation EN/IEC 60079-2		Ex pxb Ex pyb	Ex pxb Ex pyb Ex pzc		Ex pb	Ex pb Ex pc		The inflammation source is confined by the use of a pressurized protective gas (min 50 Pa) which prevents the explosive atmosphere to enter inside the enclosure
Powder filling EN/IEC 60079-5		Ex qb	Ex qb					The inflammation source is contained in a fine-grained mesch, the explosive atmosphere can't be ignited by the source of inflammation
protection by enclosure EN/IEC 60079-31				Ex ta	Ex ta Ex tb	Ex ta Ex tb Ex tc		The dust ingress protection of the enclosure prevents the dust to enter inside the enclosure; the ignition source is not in contact with explosive atmosphere.
Appareils non électriques								
Règles générales EN/ISO 80079-36	Ex h	Ex h	Ex h	Ex h	Ex h	Ex h		
Equipment ingress protection								
Conductive dust				IP6X	IP6X	IP 6X		
Non-conductive dust				IP6X	IP6X	IP 5X		

Table listing the different gas and dust groups

Gas		Dust	
Group	gas type	Group	dust type
IIA	Propan	IIIA	Combustible flyings suspended in air
IIB	Ethylen	IIIB	Non conductive dust (electric resistivity > 10^3 Ω.m)
IIB+H2	Ethylen+hydrogen		
IIC	Acethylen + hydrogen	IIIC	Conductive dust (electric resistivity ≤ 10^3 Ω.m)

Table listing all the EPL (Explosion Protection Levels)

Explosion Protection Level	Mining	Gas	Dust
very high level of protection	Ma	Ga	Da
high level of protection	Mb	Gb	Db
enhanced level of protection		Gc	Dc

Table listing the maximum surface temperature

maximal surface temperature**	
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C
TXX°C	XX°C

Main warning message

AFTER DE-ENERGIZING, DELAY Y MINUTES BEFORE OPENING
DO NO OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
DO NOT OPERATE UNDER LOAD
DO NOT OPEN WHEN ENERGIZED
DO NOT SEPARATE WHEN ENERGIZED
SEPARATE ONLY IN A NON-HAZARDOUS AREA
POTENTIAL ELECTROSTATIC HAZARD
LIVE PARTS BEHIND COVER DO NOT CONTACT

*The range of ambient temperature -20°C≤Ta≤+40°C is the standard range, it can be omitted in the marking
**Warning, the maximal surface temperature is 20K above the one obtained during the tests

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