



Marking of equipment for use in potentially explosive atmospheres

Conditions in hazardous areas				
Flammable substances	Temporary behaviour of flammable substances in hazardous places	Subdivision of hazardous places	Required marking for installation	
			equipment group	category group
gases vapours	is present continuously or for long periods or frequently	zone 0	II	1G
	is likely to occur in normal operation occasionally	zone 1	II	2G or 1G
	is not likely to occur in normal operation but, if it does occur, will persist for a short period only	zone 2	II	3G or 2G or 1G
dusts	is present continuously or for long periods or frequently	zone 20	II	1D
	is likely to occur in normal operation occasionally	zone 21	II	2D or 1D
	it is not likely to occur in normal operation but, if it does occur, will persist for a short period only	zone 22	II	3D or 2D or 1D
methane dusts	-	mines	I	M1
	-	mines	I	M2 or M1

Subdivision of gases and vapours											
Apparatus may be used in		Explosion subgroup	Gases and vapours								
IIA	IIB	IIC	ammonia methane ethane propane	ethyl alcohol cyclohexane n-butane	galsoline n-hexane	acetaldehyde					
			town gas, acrylnitril	ethylene ethylene oxide	ethylene glycol hydrogen sulphide	ethyl-ether					
			hydrogen	ethine (acetylene)			sulphide of carbon				
Temperature classes subdivision of gases and vapours according to the ignition temperature											
T1 > 450 °C		T2 > 300 to ≤ 450 °C		T3 > 200 to ≤ 300 °C		T4 > 135 to ≤ 200 °C		T5 > 100 to ≤ 135 °C		T6 > 85to ≤ 100 °C	
apparatus may be used in											
T1											
T2											
T3											
T4											
T5											
T6											

Restriction for using apparatus	
Requirements	Marking
without restriction	-
special condition may be noted	X
Ex component, which is not intended to be used alone and requires additional certification. CE-Conformity of the component is certified when installed in a complete equipment or protective system.	U

CE 0044 Ex II 2G EEx d IIB T4 NB 99 ATEX 1234 X

LCIE	France	0081	all applications	-	general requirements		-	-	EN 50014	IEC 60079-0
INERIS	France	0080	control stations, motors, fuses, switchgear, power electronics	an propagation of an explosion inside to the outside is excluded	flameproof enclosure		EEx d	1 or 2	EN 50018	IEC 60079-1
BAM	Germany	0589	installation materials, motors, luminaries	avoidance of arcs, sparks and excessive temperature	increased safety		EEx e	1 or 2	EN 50019	IEC 60079-7
DMT	Germany	0158	measurement and control, automation technology, sensors, actuators	limitation of energy as well as arcs and temperature	intrinsic safety		EEx i	0, 1 or 2***	EN 50020* EN 50039**	IEC 60079-11
DQS	Germany	0297	switch- and control cupboards, analyse-apparatus, computers	ex-atmosphere keep at a distance from the ignition source	pressurisation		EEx p	1 or 2	EN 50016**	IEC 60079-2
FSA	Germany	0588	coils of motors or relays, solenoid valves	ex-atmosphere keep at a distance from the ignition	encapsulation		EEx m	1 or 2	EN 50028	IEC 60079-18
IBExU	Germany	0637	transformers, relays, control stations, magnetic contactors	ex-atmosphere keep at a distance from the ignition source	oil immersion		EEx o	1 or 2	EN 50015	IEC 60079-6
PTB	Germany	0102	capacitors, transformers	an propagation of an ignition inside to the outside is excluded	powder filling		EEx q	1 or 2	EN 50017	IEC 60079-5
TÜV (Nord Cert)	Germany	0044	see at the top - only for zone 2	see at the top - only for zone 2	'non sparking'		EEx n	2	EN 50021	IEC 60079-15
SEE	Luxembourg	0499								
KEMA	Netherlands	0344								
SP	Sweden	0402								
LOM	Spain	0163								
EECS (BASEEFA)	UK	0600								
SCS	UK	0518								
Notified Bodies	Country	Code	Application	Principle of protection	Type of protection	Symbol	Marking	May be used in zone	CENELEC	IEC
Accredited test centre			Protection types							

* devices ** systems *** ia for use in zone 0, 1, 2 / ib for use in Zone 1, 2