

Classification and labeling of areas at risk of explosion						
Flammable subjects	Hazardous environments (Presence of Potentially Explosive Atmospheres)	Explosion risk areas (Partition)	Device classification		Equipment Protection Level (EPL)	
			Group	Category		
Gases Vapors Mists	Continuously, for long periods or frequently	Zone 0	II			
	Occasionally	Zone 1	II	1G	Ga	Gb
	Rarely or for very short periods	Zone 2	II	2G	3G	Gc
Dusts	Continuously, for long periods or frequently	Zone 20	II			
	Occasionally	Zone 21	II	1D	Da	Db
	Rarely or for very short periods	Zone 22	II	2D	3D	Dc

Subdivision and differentiation of gases, mists and vapors						
Explosion group	Most common gases in reference to explosion group and temperature classes					
IIA	IIB	IIC	Ammonia	Ethanol	Gasoline	
			Methane	Cyclohex. n-Butane	Diesel n-Hexane	Acetaldehy.
			Ethane			
			Propane			
			Smog	Ethylene	Ethylene glycol	
			Acrylic Nitrile	Ethylene oxide	Hydrogen sulphide	Ethyl ether
			Coal hydrogen	Acetylene		Disulfide



II 2G Ex ia IIC T6 Gb
 II 2D Ex tb IIIC T80°C Db X IP65

Device	Protection principle	Protection type	Marking	Use zone	Symbol	Standard	
Electric	Containment	Explosion proof	Ex d	-		EN60079-1	
	Prevention	Increased Safety	Ex e	b	1		EN60079-7
				c	2		
				-	-		
	Prevention	Intrinsic Safety	Ex i	a	0, 20		EN60079-11
				b	1, 21		
				c	2, 22		
	Segregation	Pressurization	Ex p	x	-		EN60079-2
	Segregation	Encapsulation	Ex m	y	1, 21		EN60079-18
				z	2, 22		
a				0, 20			
Segregation	Oil immersion	Ex o	b	1		EN60079-6	
			c	2			
Segregation	Sand filling	Ex q	a	1		EN60079-5	
			b	2			
Prevention Containment Segregation	Ignition proof	Ex n	A	-		EN60079-15	
			C	2			
Prevention Containment Segregation	Dustproof	Ex t	a	20		EN60079-31	
			b	21			
			c	22			
Mechanical	Prevention Containment	Control of ignition sources	Ex h	c	0, 20		EN80079-37
				b	1, 21		
	Prevention Containment Segregation	Constructive safety	Liquid immersion	k	0, 20		
1, 21							

Group	Classification
IIIA	Volatile combustible substances (fibers)
IIIB	
IIIC	
	Non-conductive powders
	Conductive powders

Dust classification

IP	0	1	2	3	4	5	6	7	8
not protected	not protected	vertical rain	cross rain (till 15°)	pioggia trasversale (till 60°)	splashing water from every direction	jets of water from every direction	high pressure water jets from all directions	temporary immersion (max 1mt. for 30')	continuous immersion (>1mt. for 60')

IP protection degree

No limitations	-
Some conditions must be met	X
To be used only in a complete system	U
Information	Code

Additional information