

# Labelling of explosion proof equipment according to ATEX 2014/34/EU

## Classification and labelling of hazardous locations

## Classification Explosion groups & Temperature classes

Flammable medium	Hazardous locations Probability of a potentially explosive atmosphere occurring	Classification of hazardous locations	Product classification		Equipment protection level (EPL)	Explosion group	Examples depending on - explosion group - temperature class					
			Product group	Product category								
Gases, mists, vapours	Continuously, for long periods or frequently	Zone 0	II			IIA	Ammonia Methane Ethane Propane	Ethanol Cyclohexene n-Butane	Petrol Diesel fuel Fuel oil n-Hexane	Acetaldehyde		
	Likely to occur	Zone 1	II	1G		IIB	City gas Acrylic nitrile	Ethylene Ethylene oxide	Ethyl glycol Carbon hydrogen	Ethyl ether		
	Infrequently and for short periods only	Zone 2	II		2G		IIC	Hydrogen	Acetylene			Carbon disulphide
Dusts	Continuously, for long periods or frequently	Zone 20	II				T1 < 450 °C Attention: this list is only an extract of possible flammable mediums and does not claim to be complete!					
	Likely to occur	Zone 21	II	1D			T2 < 300 °C					
	Infrequently and for short periods only	Zone 22	II		2D		T3 < 200 °C					
							T4 < 135 °C					
							T5 < 100 °C					
							T6 < 85 °C					
							Product use depending on temperature class (I1 - I6). The temperature class indicates the max. temperature of the exposed surface of the product. For dust explosion proof, the max. surface temperature is directly shown (e.g. T80 °C).					
Notified bodies			Temperature class									
Code number	Notified Body (NB)											
0102	PTB (Germany)											
0158	EXAM (Germany)											
Example:												
			II 2 G Ex db IIC T6 Gb NB 12 ATEX 1007 X									
			II 2 D Ex tb IIIC T80 °C Db									
Prevents transmission of the explosion outside	flameproof enclosure	Exd	da db dc		0,1,2 1,2 2	EN 60079-1	IIIA	flammable fibres				
Prevents high temperatures and sparks	increased safety	Exe	eb ec		1,2 2	EN 60079-7	IIB	non conductive dust				
Low current/voltage supply	intrinsic safety	Exi	ia ib ic		0,1,2,20,21,22 1,2,21,22 2,22	EN 60079-11	IIC	conductive dust				
Positive pressure device	pressurised apparatus	Exp	pxb pyb pzc		1,2,21,22 1,2,21,22 2,22	EN 60079-2						
Encapsulated	moulding	Exm	ma mb mc		0,1,2,20,21,22 1,2,21,22 2,22	EN 60079-18						
Parts immersed in oil to isolate from explosive atmosphere	oil immersion	Exo	ob oc		1,2 2	EN 60079-6						
Prevents transmission of explosion outside	powder filling	Exq	qb		1,2	EN 60079-5						
As above, but for use in zone 2	protection "n"	Exn	nC nR		2 2	EN 60079-15						
Dust explosion proof	protection by enclosure	Ext	ta tb tc		20,21,22 21,22 22	EN 60079-31						
Protection principle	Type of protection	Code	Sym- bol	To use in zone	CENELEC							
Protection principle – Type of protection – EN 60079-0 General Requirements						Ingress Protection EN 60529			Further information			