

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

Classification and labelling of hazardous areas					Classification into explosion groups and temperature classes							
Combustible materials	Temporary behaviour of flammable substances in hazardous areas Explosive medium	Classification of hazardous areas	Labelling of the equipment		Equipment protection level (EPL)	Explosion Group	Different examples depending on the					
			Equipment group	Equipment category			- Explosion Group	- Temperature class				
Gases Fog Fumes	permanent, long term or frequently present	Zone 0	II			IIA IIB IIC	Ammonia Methane Ethane Propane	Ethyl alcohol Cyclohexane n-Butane	Gasoline Diesel Fuel oil n-Hexane	Acetaldehyde		
	appears occasionally	Zone 1	II	1G	Ga			City gas Acrylonitrile	Ethylene Ethyleneoxide	Ethylglycol Hydrogen sulfide	Ethylether	
	probably does not appear, and if it does, then only rarely or for a short time	Zone 2	II		2G		Gb		Hydrogen	Acetylene		Carbon disulfide
Dust	permanent, long term or frequently present	Zone 20	II			T1<450°C T2<300°C T3<200°C T4<135°C T5<100°C T6<85°C						
	appears occasionally	Zone 21	II	1D	Da							
	probably does not appear, and if it does, then only rarely or for a short time	Zone 22	II		2D		Db					
<b>Notified places</b>												
Identification number	Notified places											
0102 0158	PTB (Germany) EXAM (Germany)											

Example:



II 2G Ex db eb IIC T3-T4 Gb PTB 06 ATEX 1046 X  
II 2D Ex tb IIIC T80°C Db

Protection principle	Type of protection	Labeling	Symbol	Use in zone	CENELEC
Transmission of an explosion to the outside is excluded	pressurized encapsulation	Exd	da db dc	0,1,2 1,2 2	EN60079-1
Avoiding sparks and excessive temperatures	increased security	Exe	eb ec	1,2 2	EN60079-7
Energy limitation of the circuit, sparks and temperatures	Intrinsic safety	Exi	ia ib ic	0,1,2,20,21,22 1,2,21,22 2,22	EN60079-11
Ex atmosphere is kept away from the ignition source	Overpressure encapsulation	Exp	pxb pyb pzc	1,2,21,22 1,2,21,22 2,22	EN60079-2
Ex atmosphere is kept away from the ignition source	Encapsulation	Exm	ma mb mc	0,1,2,20,21,22 1,2,21,22 2,22	EN60079-18
Ex atmosphere is kept away from the ignition source	Oil encapsulation	Exo	ob oc	1,2 2	EN60079-6
Transmission of an explosion to the outside is excluded	Sand Encapsulation	Exq	qb	1,2	EN60079-5
As before, but for use in zone 2	Ignition protection type „n	Exn	nC nR	2 2	EN60079-15
Dust explosion protection	Protection by housing	Ext	ta tb tc	20,21,22 21,22 22	EN60079-31

Protection principle - Types of protection - Standards - EN 60079-0 General requirements

Labelling	Dust groups
IIIA	flammable fluff
IIB	non-conductive dust
IIC	conductive dust

The equipment can be used without restriction	-
Special conditions must be observed when using the equipment	X
The equipment is an Ex-component with partial certificate and therefore not usable on its own	U
The CE conformity is certified when the device is installed in a complete equipment	
<b>Conditions</b>	<b>Labelling</b>
<b>Additional information</b>	

