

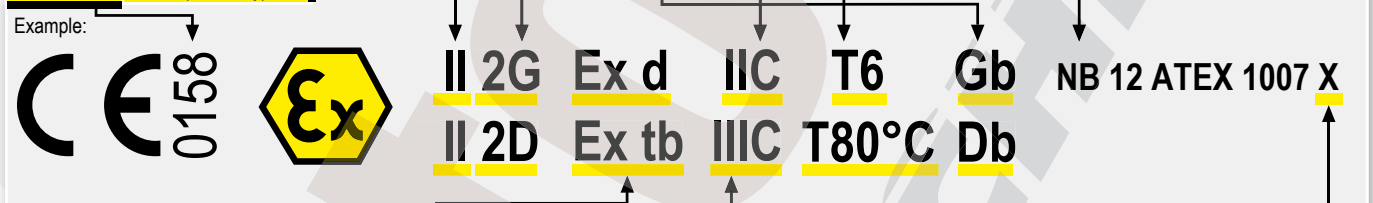
## Labelling of explosion proof equipment according to ATEX 94/9/EC

### Classification and labelling of hazardous locations

### Classification Explosion groups & Temperature classes

Flammable medium	Hazardous locations Probability of a potential explosive atmosphere occurring	Classification of hazardous locations	Product classification			Product level (EPL)	Explosion group	Examples depending on - explosion group - temperature class					
			Product group	Product category				Ammonia Methane Ethane Propane	Ethanol Cyclohexene n-Butane	Petrol Diesel fuel Fuel oil n-Hexane	Acetaldehyde		
Gases, mists, vapours	Always, temporarily or often present	Zone 0	II				IIA IIB IIC						
	Occasionally present	Zone 1	II	1G		Ga		City gas Acrylic nitrile	Ethylene Ethylene oxide	Ethyl glycol Carbon hydrogen	Ethyl ether		
	Very seldom or only present for a short period	Zone 2	II		2G 3G	Gb Gc		Hydrogen	Acetylene				Carbon disulphide
Dusts	Always, temporarily or often present	Zone 20	II				T1 < 450 °C T2 < 300 °C T3 < 200 °C T4 < 135 °C T5 < 100 °C T6 < 85 °C	Attention: this list is only an extract of possible flammable mediums and does not claim to be complete!					
	Occasionally present	Zone 21	II	1D		Da							
	Does not occur or only seldom for a short period	Zone 22	II		2D 3D	Db Dc							

Official institutes	
code number	Institute Notified Body (NB)
0102	PTB (Germany)
0158	EXAM (Germany)



Prevents transmission of the explosion outside	flameproof enclosure	Ex d		1, 2	EN 60079-1
Prevents high temperatures and sparks	increased safety	Ex e		1, 2	EN 60079-7
Low current/voltage supply	intrinsic safety	Ex i <sup>1</sup> Ex iD <sup>2</sup>		0, 1, 2 20, 21, 22	EN 60079-11
Positive pressure device	pressurised apparatus	Ex p Ex pD		1, 2 21, 22	EN 60079-2
Encapsulated	moulding	Ex m <sup>3</sup> Ex mD <sup>4</sup>		0, 1, 2 20, 21, 22	EN 60079-18
Parts immersed in oil to isolate from explosive atmosphere	oil immersion	Ex o		1, 2	EN 60079-6
Prevents transmission of explosion outside	powder filling	Ex q		1, 2	EN 60079-5
As above, but for use in zone 2	protection "n"	Ex n		2	EN 60079-15
Dust explosion proof	protection "tD"	Ex t <sup>5</sup>		20, 21, 22	EN 60079-31
Protection principle	Type of protection	Code	Symbol	To use in zone <sup>6</sup>	CENELEC

Code	Dust classification	
	IIIA IIB IIC	flamable fibres

IP	Protection against solids/dust	Protection against water
8	–	long periods of immersion
7	–	the effects of temporary immersion
6	totally protected against dust	strong jets of water
5	dust - limited ingress	low pressure jets from all directions
4	solids objects > 1 mm	sprays from all directions
3	solids objects > 2,5 mm	direct sprays up to 60° from vertical
2	solids objects > 12,5 mm	direct sprays up to 15° from vertical
1	solids objects > 50 mm	vertical falling drops of water
0	no protection	no protection

Application	Code
For common use	–
For use under special circumstances	X
This product is an Ex-certified component for use in a complete system	U

Protection principle – Type of protection – EN 60079-0 General Requirements

Ingress Protection EN 60529

Further information

<sup>1</sup> ia (zone 0, 1, 2), ib (zone 1, 2), ic (zone 2)      <sup>3</sup> ma (zone 0, 1, 2), mb (zone 1, 2), mc (zone 2)  
<sup>2</sup> iaD (zone 20, 21, 22), ibD (zone 21, 22), icD (zone 22)      <sup>4</sup> maD (zone 20, 21, 22), mbD (zone 21, 22), mcD (zone 22)  
<sup>5</sup> ta (zone 20, 21, 22), tb (zone 21, 22), tc (zone 22)      <sup>6</sup> Highest possible application areas

