

# mayr® ATEX-certified products

⚠ Marking for operational equipment in areas where there is a danger of explosion acc. 2014/34/EU (ATEX)

Our experts are happy to assist  
with an application-specific evaluation

Ignition Protection Types					
a) Standards for electrical equipment in areas where there is a high danger of explosion					
Ignition Protection Type	Marking	Symbol	Protective Principle	Zone	EN / IEC
General regulations	-	-	-	-	60079-0
Pressure-resistant encapsulation	Ex d		Prevents further transmission of explosion	1 / 2	60079-1
Increased safety	Ex e		Prevents sparks and high temperatures	1 / 2	60079-7
Inherent safety	Ex ia / ib / ic		Limits sparks and high temperatures	0 / 1 / 2 / 20 / 21 / 22	60079-11
Pressurizing	Ex pv / px / py / pz		Separates explosive atmosphere from ignition source	1 / 2	60079-2
Encapsulation	Ex ma / mb / mc		Separates explosive atmosphere from ignition source	0 / 1 / 2 / 21 / 22	60079-18
Oil immersion	Ex o		Separates explosive atmosphere from ignition source	1 / 2	60079-6
Powder filling	Ex q		Prevents further transmission of explosion	1 / 2	60079-5
Ignition protection type "n"	Ex nA / nC / nR		Different protective principles for Zone 2	2	60079-15
Protection by housing	Ex ta / tb / tc		Separates explosive atmosphere from ignition source	21 / 22	60079-31
Pressurizing	Ex p		Separates explosive atmosphere from ignition source	21 / 22	61241-4
b) Standards for non-electrical equipment in areas where there is a high danger of explosion					
Ignition Protection Type	Marking	Symbol	Protective Principle	Zone	EN / IEC
Basic principles and requirements	-	-	-	0 / 1 / 2	13463-1
Protection by smoke-reducing encapsulation	fr		Prevents further transmission of explosion	2 / 22	13463-2
Pressure resistant encapsulation	d		Separates explosive atmosphere from ignition source	1 / 2 / 21 / 22	13463-3
Structural safety	c		Danger of ignition is prevented by equipment design	1 / 2 / 21 / 22	13463-5
Ignition source monitoring	b		Monitoring of potential ignition sources	1 / 2 / 21 / 22	13463-6
Liquid filling	k		Separates explosive atmosphere from ignition source	1 / 2	13463-8

Examples of Gas, Haze and Steam Classification and Differentiation (Please Observe for Different Ignition Types)					Temperature Class and Max. Surface Temperature
Classification of Gases and Steams	Explosives Group				
	I	IIA	IIB	IIC	
	Methane	Acetone Ammoniac Ethane Acetic acid Methane Propane	Acrylonitrile Urban gas	Hydrogen	T1 450 °C
		Cyclohexane Ethanol n-Butane i-amyl acetate	Ethylene Ethylen oxide	Acetylene	T2 300 °C
		Benzines Diesel fuels Jet propulsion fuels Fuel oil n-Hexane	Ethyl glycol Hydrogen sulphide		T3 200 °C
	Acetaldehyd	Etyl ether		T4 135 °C	
				T5 100 °C	
			Carbon disulphide	T6 85 °C	

Additional Marking for Dust Explosion Hazard Areas acc. EN 60079-0		
IIIA	IIB	IIC
flammable lint	non-conductive dust	conductive dust

If no particular ambient temperature range Ta is specified, the standard range of -20°C≤Ta≤+40°C applies.  
For this, no special marking is necessary.  
Other ambient temperature ranges must be included in the marking, e.g. -15°C≤Ta≤+80°C.

CE ..... ⚠ II 2 G c IIC T5 ..... D 120°C ..... X

CE-marking certifies  
conformity of product with  
the existing guidelines

Marking  
Explosion-proof Design

Official Inspection Authorities in  
Germany  
(If Certified by a Laboratory)

Code	Laboratory
0035	TÜV Rheinland
0102	PTB
0123	TÜV Súd
0158	DEKRA / EXAM
0588	FSA
0589	BAM
0637	IBEXU
0556	DGUV
0044	TÜV Nord

Classification and Marking of Explosive Areas					
Com- bustible materials	Time-related behaviour of combustible materials in explosive areas	Classification of areas where there is a high danger of explosion	Marking for equipment	Device class	Device category G = Gas D = Dust
Gas, Fog, Steam	are constantly / often present or present over longer time	Zone 0	II 1G	II	1G
	are occasionally present	Zone 1	II 1G 2G	II	1G 2G
	are probably not present; and, if present, only rarely or temporarily	Zone 2	II 1G 2G 3G	II	1G 2G 3G
Dust	are constantly / often present or present over longer time	Zone 20	II 1D	II	1D
	are occasionally present	Zone 21	II 1D 2D	II	1D 2D
	are probably not present even in whirled dust, or are rarely or temporarily present	Zone 22	II 1D 2D 3D	II	1D 2D 3D
Methane, Dust	-	Mines	I M1	I	M1
	-	Mines	I M1 M2	I	M1 M2

Additional Classification acc. EN 60079-0			
Device class	Equipment Protection Level (EPL)		
II	Ga		
II	Ga	Gb	
II	Ga	Gb	Gc
III	Da		
III	Da	Db	
III	Da	Db	Dc
I	Ma		
I	Ma	Mb	

Actual Maximum Surface  
Temperatures of Operational  
Range Dust  
in °C

Additional Conditions	
Condition	Marking
Operational equipment can be used without restriction	-
Observe special operational conditions	X
EX-endangered equipment, partly certified, not suitable for use alone. CE-conformity is certified after installation into the complete equipment	U



Torque limiting clutch  
EAS®-element clutch / EAS®-dutytorque:  
CE Ⓢ II 3 G c T4 -15°C≤Ta≤+80°C D 150°C



Torque limiting clutch in enclosed housing  
EAS® -HTL :  
CE Ⓢ II 2 G c T5 -15°C≤Ta≤+80°C D 110°C



Torque limiting clutch  
EAS®-Compact -overload :  
CE Ⓢ II 2 G c T5 -15°C≤Ta≤+80°C D 110°C



Shaft coupling  
ROBA® DS :  
CE Ⓢ II 2 G c T5 -30°C≤Ta≤+80°C D 110°C  
CE Ⓢ I M2 c -30°C≤Ta≤+80°C



Shaft coupling  
ROBA® ES:  
CE Ⓢ II 2 G c T4/T5/T6 -30°C≤Ta≤+80/60/45°C D 110°C  
CE Ⓢ I M2 c -30°C≤Ta≤+80°C



Safety brake  
ROBA-stop®-M Brake :  
CE Ⓢ II 3 G Ex nA IIC T3 Gc X  
CE Ⓢ II 3 G Ex tc IIC T120°C IP65/IP54 Dc X