



How to avoid the explosion?

The risk in potentially explosive atmospheres is due to mixtures of gas/air, vapour/air, dust/air or other flammable combinations.

We can avoid the explosion by eliminating sources of ignition such as sparks, hot surfaces or static electricity.

Preventing an explosive atmosphere

The used protective systems for electrical equipments in an atmosphere of gas, vapour or mist are detailed in table 2. Several protective measures may be combined.

Within explosive dust atmosphere, the protective measures mainly concern the waterproof surface (protection class IP)

New protective systems applied to non electrical materials used in potentially explosive atmosphere are detailed in the new European standard EN 13343-1.

Reliable measures eliminating all potential sources of ignition is dependent on the category of the used equipment. You should first consider the materials, alloys, electro-static charges, electric arc and over-heating due to frictions.

TABLE 2		
MODES OF PROTECTION AGAINST THE IGNITION	THIS IDENTIFICATION CAN BE USED IN ZONE	PRINCIPLE OF SAFETY
Increased safety	EEx e 1	no electric arcs, sparks or hot surfaces
Anti-spark equipment	EEx nA 2	
Antiexplosive covering	EEx d 1	controls the internal explosions but not the spreading of the flame
Encapsulation of sand	EEx q 1	
Device for protected commutation	EEx nC 2	
Intrinsic safety (specific demands)	EEx ia 0	limits the energy of a spark and the temperature of the surface
Intrinsic safety	EEx ib 1	
Equipment for limiting energy	EEx nL 2	
Encapsulation	EEx m 1	distinguishes the source of ignition and the ATm.Expl.
Encapsulation of oil	EEx o 1	
Pressurisation	EEx p 1	
Simplified pressurisation	EEx nP 2	
Protective covering against the vapour	EEx nR 2	