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Fan Manufacturers Association Position statement

on FANS intended for use in Potentially Explosive Atmospheres;

Conformity with the ATEX Directive 2014/34/EU

With the introduction of the ATEX directive into UK law on 1st July 2003, and recast in April 2016, there are technical and legislative aspects that have to be addressed by fan manufacturers AND by users of fans in potentially explosive atmospheres.

Members of the Fan Manufacturers Association (FMA) have held a number of industry meetings during which they have addressed the technical requirements laid out in the ATEX directive.

Consequently members of the FMA are in a position to provide solutions to applications that require fans to be used in potentially explosive atmospheres and they are in a position to supply fans that are compliant with the ATEX directive.

In order to supply fully compliant fans, the client/end-user must provide the fan manufacturer (or his agent) with essential details on the environment in which the fan will be required to operate. The Directive sets out the main duties on end-users of fans as:

- To prevent the formation of explosive atmospheres
- Assessment of explosion risks
- Classification of the workplace into Zones
- Select ATEX products according to Zone
- Prepare an explosion protection document (EPD)
- Identify hazardous areas using warning signs

The FMA has listed the information your fan supplier will require from you on the second page of this statement, but if you are uncertain on any aspect the FMA would recommend that you talk to your fan supplier.

Federation of Environmental Trade Associations *Fan Manufacturers Association*

Information that the end-user/client MUST provide to their fan manufacturer so that they can supply you with a fan that is compliant with the ATEX Directive 2014/34/EU

In addition to the fan duty requirements, to assist us to produce a quotation for a fan for use in a hazardous atmosphere and to comply with ATEX Directive 2014/34/EU, please complete the table below.

Hazardous Area Details

		Inside Fan Casing	Outside Fan Casing
Zone Classification	Zone 0		N/A
	Zone 1 or 21		
	Zone 2 or 22		
Category *	Category 1D or 1G		**
	Category 2D*** or 2G		**
	Category 3D or 3G		**
Temperature Class (gas only) eg. T3, T4 … T6			
Max allowable surface Temp. of equipment (°C) ****			
Ignition Temp. of dust (°C) if applicable			

Operation Details

Gas or Dust Group e.g. Gas Group IIB (mixture of air and 5% Ethylene) For external dust, hazard is dust combustable flying or non conductive or conductive layer (Group IIIA, IIIB or IIIC respectively)	Group ……..
How is the fan installed e.g. ducted inlet/open outlet, horizontal or vertical mounting etc.?	
Description of fan operation e.g. use with Inverter Drive	
Any extreme environmental conditions e.g. ambient temperatures above or below standard motor conditions of -20°C to +40°C, corrosive or dirty environment which may cause build up etc.	

For dual certification gas AND dust please give information on both gas and dust groups

* If unknown, we will use the relation between Zone and Category from the UK HSE Guidelines www.hse.gov.uk/fireandexplosion/zoning.pdf

In zone	Applicable category	If designed for
0	1G	gas/air mixture or vapour/air mixture or mist/air mixture
1	1G or 2G	gas/air mixture or vapour/air mixture or mist/air mixture
2	1G or 2G or 3G	gas/air mixture or vapour/air mixture or mist/air mixture
20	1D	dust/air mixture
21	1D or 2D	dust/air mixture
22	1D or 2D or 3D	dust/air mixture

** For ducted inlet and outlet fans, only one category difference between internal and external is allowed unless gas tight tested construction is used. For a ducted fan in an unventilated room, the same category shall be applied for inside and outside the fan case.

*** BS EN 14986: 2017 *Design of fans working in potentially explosive atmospheres* states that "In addition for category 2D fans inside, as the presence of dust can cause imbalance in the impeller, vibration monitoring is mandatory."

**** If unknown, we will use the relation of Temp. Class and Max Surface Temp. in EN13463-1; Table 1, Section 6

Information requested by FMA member