



ICMMA Guide to ATEX: Employers' Legal Duties

ICMMA PUBLICATION 006

Issue 3: September 2010

First Issue: October 2005

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<http://www.icmma.org.uk/pub/006.3.pdf>

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<i>Issue Number</i>	<i>Date of Issue</i>	<i>Reason for Change</i>
001		New document
002	June 2006	Reformatted, no content change
003	September 2010	Edit of section 3 "Hazardous Classified Area"

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1 Introduction

The ATEX Directive governing equipment used in potentially explosive atmospheres came into force on 1 July 2003. The 'transition period' where the old standards could be used, is now behind us.

Potentially explosive atmospheres are found in many industries, from mines, chemical, oil and gas, and pharmaceuticals, to cereals, animal feed, paper, wood and coal. All have the potential to produce gas, dust or fumes, which can be ignited by a spark or flame, ATEX Directive 94/9/EC, also known as ATEX 100 gives the safety requirements to be fulfilled by all equipment, both electrical and non-electrical, installed anywhere in hazardous areas within the EU.

2 UK Legislation

The Dangerous Substances and Explosive Atmospheres Regulations 2002 SI2002/2776 (ISBN 0 110442957 5) (DSEAR) require employers to make an assessment of the health and safety risks arising from dangerous substances and this specifically deals with the risks from explosive substances. In particular, they have to assess where explosive atmospheres could form and, in these areas, use appropriately protected equipment. Many workplaces that handle fine dusts as a raw material, finished or waste product find they need vacuum cleaning equipment to remove dust which escapes.

3 Hazardous classified area

FAQ 1 What is meant by hazardous classified area?

A: An area in which combustible dust in cloud form or gases/vapours can be expected to be present in quantities such as to require precautions for the construction, installation and use of equipment to prevent ignition.

Hazardous areas are divided into zones based on the frequency and duration of the occurrence of explosive dust in cloud form or gases/vapours.

For vacuum cleaners the main zones to be considered are zones 21 and 22.

Zone 21 exists where a dense dust cloud can form in normal operation, such as a sack tipping point.

Zone 22 exists where a dense dust cloud could form for a short period, perhaps as a result of some process fault.

Places where dust layers form steadily, and need to be removed regularly are often classified as zone 22, because of the risk that the dust could be raised into a cloud. In zone 22 a category 3 ATEX cleaner is needed. If the power supply for the cleaner is inside the classified area, the socket should also be dust protected, and any new sockets ATEX compliant.

4 Employers' Liability

For the first time, employers will have a legal duty to protect their staff from the dangers of explosive atmospheres. A related Directive – the Worker Protection Directive, or ATEX 137 – also came into force in July 2003. Employers' obligations

include assessing the site's sources of hazard and likely sources of ignition, classification of the area into zones, marking all points of entry, and producing and maintaining documentation. The main obligations on employers are to:

- Prepare an explosion protection document (EPD).
- Classify the workplace into Zones where applicable.
- Select ATEX 100a products according to Zone.
- Identify, using warning signs, locations where explosive atmospheres may occur.

5 Risk assessment

Essentially, the employer is required to take all reasonable measures to prevent the formation of an explosive atmosphere in the workplace. Where this is not possible, measures must be taken to avoid the ignition of any potentially explosive atmosphere. The effects of any explosion must be minimised in such a way that workers are not put at risk. Any measures taken must be reviewed regularly, particularly when any significant changes are made to the hazardous area workplace.

The employer must also carry out a risk assessment of risks arising specifically from explosive atmospheres and produce an EPD which demonstrates that explosion risks have been assessed. Compliance is mandatory from 1 July 2003 for new installations, or where existing installations have an element of risk, and from 1 July 2006 for existing installations where there is no risk.

6 Penalties for non-conformance

The ATEX Directive is now incorporated into U.K.Law with the plaintiff able to prosecute through Magistrate, Crown or Criminal Courts with the potential of unlimited penalties: these may include a mandatory requirement that any manufacturer found in breach of Law undertakes a full recall/replacement programme.

Operators in particular, should remember that any incident which involves injury or damage will fall within the scope of legislation such as The Health and Safety at Work Act, which provides for much higher penalties than those under the Machinery Safety Regulations.

7 The ATEX Mark

FAQ 2 How do I know if equipment that I am going to buy or already have meets the requirements for use in a hazardous area?

A: New equipment will bear an ATEX mark and other markings explained below. In addition it should carry the name of the manufacturer and for a category 2 machine the code number of the notified body who should carry out the assessment. An example of an ATEX certification code is shown below.

A typical ATEX certification code is made up as follows:



(Note the detail of this code will vary and should be studied very carefully to ensure the appliance is suitable for the product being collected and the environment in which it is

to be used.)

1. The **CE** mark
2. **Ex** symbol. The distinctive community mark showing a product is suitable for use in an explosive dust and/or gas atmosphere.
3. **II** – equipment group II (surface industries)
4. **3** – Category 3 product
5. **G** – explosive gas, vapour or mist atmosphere
6. **D** – explosive dust atmosphere
7. **IIC** group II subdivision (suitable for group II gases, vapours and mists)
8. **50°C** surface temperature for dust evaluation is less than **50°C**
9. T6 surface temperature classification for gases, vapours and mists (less than **85°C**)