



Protection against risk of explosion and Explosive Atmospheres

Have you thought about potential risks of explosion in your company, as large or small as it may be? Our experts will carry out necessary checks and if results are positive, will also provide you with a compliance certificate.

Your tailor-made solution

Fortunately, explosions and fires are not the most common causes of accidents at work. But their consequences may be spectacular and dramatic: they are often human and material losses accompanied by serious financial harm. The truth about the risks of explosion caused by substances acknowledged as harmful and large-scale (petro-)chemical industrial processes is significantly underestimated. In small companies, in which there are operating processes and working situations which many people say are harmless, there may also be a risk of explosion. And not only due to a small fuel tank, because what we often forget is that accumulation of minute particles of dust (flours, metal oxides, sawdust, etc.) or gases (solvents, paints, etc.) may also lead to explosions, for example:

- painting cabins;
- paint mixing facilities;
- sawmills;
- conveyor belt tunnels;
- waste storage and treatment firms;
- places set aside for fixed battery banks;
- spaces for recharging traction batteries for forklifts;
- facilities for treatment or storage of explosive materials or flammable liquids which have flash points of less than or equal to 55°, including presence of explosive dust, etc.

In or around the danger zone, measurements must be taken to:

- keep to their strict minimum the number and extent of danger zones;
- as far as possible, reduce the use of electrical and non-electrical equipment in these zones;
- prevent electrical and non-electrical equipment from igniting an explosive atmosphere, if there is one;
- train its personnel to guarantee implementation of correct maintenance of electrical and non-electrical equipment in these zones.

Risks due to a fault with electrical equipment also merit special attention of course.

If there is a risk of explosion, based on risk analysis, it is essential to draw up a risk protection document (DRPCE), plus a report and zoning plans. The report and zoning plans must be approved and initialled by the operator or their deputy and the representative of the approved organisation (RGIE Art. 105).

In all of these fields, Vincotte may make a key contribution in the following fields:

- approval and initialling of reports and zoning plans;
- pre-use examination and periodic inspections of electrical equipment in potentially explosive zones;
- approval of the external influence factors plan (RGIE Art. 19);
- advice on selection and use of equipment in potentially explosive zones;
- unit examination in accordance with Schedule III of Directive 94/9/CE as a notified organisation;
- through repair workshops, surveillance of electrical machinery and equipment protected against explosions (RGIE Art. 106);
- approval of risk assessment in terms of machines, equipment and protection systems now being marketed for the first time within the European Union before 30th June 2003.

Your result

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Please note

Legislations

Règlement Général sur les Installations Électriques (RGIE):

- Art. 270: Pre-use compliance check of low voltage equipment
- Art. 271: Low voltage equipment inspection
- Art. 272: Compliance check and inspection of high voltage equipment
- Art. 104: Fire prevention measures (as amended by the Royal Decree dated 25/04/2013)
- Art. 105 and 110: Protection against risk of explosion and Explosive Atmospheres

ATEX 95 – 94/9/CE - Royal Decree dated 22nd June 1999 determining the safety guarantees which equipment and protection systems intended to be used in explosive atmospheres must have.

ATEX 137 – 99/92/CE - Royal Decree dated 26th March 2003 concerning the well-being of workers likely to be exposed to the risks posed by explosive atmospheres.

Royal Decree dated 4th December 2012 on minimum safety recommendations for electrical equipment in the workplace.

Norms and standards

- IEC 60079-0: Explosive atmospheres – Equipment – General requirements
- IEC 60079-10-1: Explosive atmospheres – Classification of locations – Gaseous explosive atmospheres.
- IEC 60079-10-2: Explosive atmospheres – Classification of locations – Dusty explosive atmospheres.
- IEC 60079-14: Explosive atmospheres – Design, selection and construction of electrical equipment.
- NBN EN 13463: Non-electrical equipment intended to be used in explosive atmospheres.

In which situation?