CONDITIONS FOR PERMITTING WORK IN AREAS WITH EXPLOSION HAZARDS

Classification of areas with explosion hazards
Areas with explosion hazards are classified into zones based on the frequency of occurrence of explosive atmospheres and their duration.

1 Areas with an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapor, or mist are classified into the following zones:

Zone 0 = An area in which an explosive atmosphere consisting of a mixture of air and combustible substances in the form of gas, vapor, or mist is present continuously or for long periods or frequently.

Zone 1 = An area in which an explosive atmosphere consisting of a mixture of air and combustible substances in the form of gas, vapor, or mist is likely to occur occasionally.

Zone 2 = An area in which an explosive atmosphere consisting of a mixture of air and combustible substances in the form of gas, vapor, or mist is not likely to occur, and if it does occur, it will only be present exceptionally and for a short period of time.

2 Areas in which an explosive atmosphere occurs in the form of a cloud of combustible dust in the air are classified into the following zones:

Zone 20 = An area in which an explosive atmosphere consisting of a cloud of combustible dust suspended in the air is present continuously or for long periods or frequently.

Zone 21 = An area in which the occasional formation of an explosive atmosphere consisting of a cloud of combustible dust suspended in air is probable.

Zone 22 = An area in which an explosive atmosphere consisting of a cloud of combustible dust suspended in air is not likely to occur, and if it does occur, it will only be present exceptionally and for a short period of time.

The zones referred to in paragraphs 1 and 2 must be marked with an "Ex Zone" sign.

3 Layers, deposits, and piles of combustible dust
They must be considered a source that can create an explosive atmosphere.

4 Written instructions and orders for performing work

4.1 In areas with a risk of explosion, work may only be carried out in accordance with the explosion protection documentation.

4.2 Where specified in the explosion protection documentation, hazardous activities (which may create an explosive atmosphere or cause the initiation of an explosive atmosphere, or activities which, through interaction with other activities, may cause an explosion hazard) may only be carried out on the basis of a "Permit" marked in the header as "Order V".

4.3 Persons designated in the "Order V" to perform work must be demonstrably familiarized in advance with the content of this work permit and with the warning signals that will be used at the workplace to warn of explosion hazards.

4.4 The "Order V" must include, among other things:

- instructions for securing the workplace to protect against the formation of an explosive atmosphere or, where applicable, for restoring it to its original condition,
- determination of measures to ensure occupational health and safety that must be implemented before work commences,
- a list and description of protective and emergency response equipment for dealing with emergencies, such a s fire protection equipment,
- name, surname, and signature of the authorized employee who issued the "Order V,"

- the name, surname, and signature of the work group leader responsible for the performance of the work and who accepted the "Order V,"
- names and surnames of the persons who will perform the work and their signatures confirming that they have been properly instructed, familiarized with the workplace safety measures, and understand how the work is to be performed,
- other necessary information, such as a statement that the work is performed under supervision or oversight, or the designation of a person authorized to supervise or oversee the performance of the work, or a record of the handover of the workplace.

5 Explosion protection measures

When authorizing work on equipment, all measures that have been proposed and are part of the explosion protection documentation prepared and approved for the relevant workplace must be respected.

5.1 Organizational measures

Persons working in an environment with a risk of explosion must be sufficiently familiar with the explosion protection documentation, preventive and protective measures, and the use of personal protective equipment.
Only workers whose theoretical knowledge and practical skills have been demonstrably verified may operate equipment and protective systems in areas with a risk of explosion.

5.2 Checks and inspections

The presence of an explosive atmosphere must always be checked when putting equipment into operation or when there is a suspicion that flammable gases or liquids are escaping from the equipment, or that flammable dust is settling on or near the equipment. In areas inside buildings, checks must be carried out at least once a month.
Inspections carried out in accordance with this article must be recorded in the equipment's operating documentation.

5.3 Escape routes and signals

Workers must be warned of the danger of explosion by a light signal, an audible signal, or a combination of both, so that they can safely leave the endangered area.
Escape routes must be kept clear and accessible at all times so that workers can quickly and safely leave the area at risk of explosion.

5.4 Personal protective equipment (PPE)

When working in an explosive atmosphere, workers must wear protective clothing and footwear made of materials that do not cause electrostatic discharges capable of igniting an explosive atmosphere. Other persons must also be equipped with the same clothing and footwear if they enter or remain in workplaces in areas with a risk of explosion.

5.5 Use of tools and instruments in potentially explosive atmospheres

There are two types of hand-held portable tools:

a) tools and instruments that may cause individual sparks when used (e.g., hammers, steel screwdrivers, wrenches, etc.),
b) tools and equipment that generate a lot of sparks when cutting and grinding.

In zones 0 and 20, it is not permitted to use tools and equipment that may cause sparks; tools and equipment made of non-sparking material must be used.

In zones 1 and 2, tools and instruments made of steel as specified in point a) may be used. Tools and instruments as specified in point b) may only be used if it is ensured that there is no hazardous explosive atmosphere at the workplace.

In zones 21 and 22, tools and instruments made of steel in accordance with point a) may be used. Tools and instruments made of steel according to point b) may be used if the workplace is shielded from the rest of zones 21 and 22 and settled dust has been removed from the workplace, or if the workplace is kept so moist that dust cannot be stirred up into the air or cause smoldering.

Note: When grinding or cutting in zones 21 and 22 or their immediate vicinity, it must be taken into account that the resulting sparks can fly over long distances and create smoldering particles. It is therefore necessary to include other areas around the workplace in the preventive measures.

5.6 Training

The relevant manager of a workplace with a risk of explosion (or their authorized representative) is obliged to familiarize employees of external companies performing work at these workplaces with written documentation on explosion protection, protective measures, and safe working practices in a demonstrable manner. This is done during initial and periodic training at the workplace (on the dates and according to the rules set out in S-3.8.9).