

# SAFETY MEMO

March 15th, 2021 – Hot work



Did you know?

## Hot work

Hot work involves the use of an open flame, heat or spark producing tools. They include a number of operations:

- Assembly operation (arc or gas welding).
- Material removal or disassembly operation (cutting, grinding, deburring, sanding, drilling, oxy cutting, etc.).
- Sealing operation (welding of bitumen strip with a flame cutting torch).
- Any work transferring fire by flame, heat or sparks.



Hot work is responsible for 30% of fire incidents and is practiced in many fields.

## Outbreak of fire

A combustion reaction can only occur in the presence of the proper combination of three elements: a fuel, an oxidizer and a source of energy. It is called a fire triangle.

Hot work, the energy source, generates heat or sparks that can ignite combustible materials near the work site.

Four types of heat transfer can cause a fire:

- Radiation: ignition of unprotected flammable materials located in the immediate vicinity of the heat source.
- Projection: sparks that can reach 2000°C and be projected several meters away on combustible materials.
- Thermal conduction: heat transmission from a conductive element in contact with a combustible material.
- Hot gas transfer: transmission of unburnt hot gases to a fuel.

## Prevention: fire permit

- In order to avoid a fire, it is necessary to remove one of the three elements of the fire triangle. As safety is often based on the absence of an energy source, it is therefore essential to apply a few precautionary measures before beginning any hot work.
- Perform an inspection of the work site.
- Clean the area and eliminate explosive atmospheres.
- Move all flammable and combustible materials away from the work area.
- Check the equipment used to do the work.
- Ensure that all appropriate protective means are available and accessible.
- Block off any openings that can cause a fire ignition.
- Complete all necessary standards before the work starts.



The hot work permit is an essential document in the prevention of fire risks. In this document you can find important information related to the work being done (safety instructions

and rules, advice on prevention methods, obligations prior to starting work and monitoring of the area after the end of the work). The fire permit ensures that all preventive measures have been taken into account.

The fire permit authorizes external companies as well as the company where the work is being done to carry out hot work in places that are not designated for such work. It must be prepared and signed by the head of the establishment or his representative.

The fire permit is valid for a limited period and must be renewed as soon as an element changes (environment, equipment, workers, etc.). It is recommended to issue a fire permit daily to comply with safety instructions related to this type of work.

