

# Hot work

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## 0 Binding force of the safety guidelines

The safety guidelines appended to the insurance contract constitute a supplement to the insurance terms. The policyholder and the insured must adhere to these safety guidelines when performing hot work. If the safety guidelines are neglected, the compensation may be reduced or declined in accordance with the Insurance Contracts Act.

In addition, the provided Acts, Decrees, Government decisions and regulations, and decisions and regulations of the Ministries are to be followed.

**The policyholder and the insured must make sure that everyone responsible for hot work and everyone performing hot work knows the content of these safety guidelines. The policyholder and the insured are responsible for attaching a copy of these safety guidelines to all contract agreements incorporating hot work, and for ensuring that the contractor adheres to them.**

Chapters 0-4 in these safety guidelines are related to hot work; chapters 0-3 and 5 are related to roof insulation and water-proofing hot work.

By following these safety guidelines and the standard SFS 5900 Hot work safety, a person performing hot work can ensure that he/she exercises sufficient caution when performing hot work.

## 1 The purpose of the safety guidelines

These safety guidelines provide the standards for the prevention of fire damage during hot work and roof insulation and water-proofing hot work.

## 2 Definitions

### Hot work

Hot work involves spark-producing work and work where flames or other heat sources are used, causing a fire hazard. This hot work can involve electric and gas welding, gas soldering, hot air blower work, flame cutting, metal polishing and cutting with a handheld power cutter.

### Hot work with minor fire hazard

Hot work with minor fire hazard is work that includes a small risk of ignition and spread of fire.

### Roof insulation and waterproofing hot work

Roof insulation and waterproofing hot work is waterproofing work where flames or other heat sources are used, causing a fire hazard. Roof and waterproofing hot work includes drying the base to be insulated with a flame or hot air, heating bitumen in a bitumen pot and attaching water insulation by heating, as well as any necessary auxiliary work which produces sparks.

### Hot work plan

A hot work plan is a written plan for safe conduct of hot work and roof insulation and waterproofing hot work.

### Permanent hot work location

A permanent hot work location is a particular fire section or other area separated from its surroundings in which hot work can be safely performed.

### Temporary hot work location

Temporary hot work locations include all other hot work locations than the permanent ones.

A roof insulation and water-proofing hot work location is always a temporary hot work location.

### **Analysis and assessment of risks associated with hot work**

Analysis and assessment of risks associated with hot work consists of identifying risks caused by hot work and evaluating their seriousness at the hot work location. The analysis and assessment of risks is performed before a hot work permit is granted and each time that the conditions at the hot work location change. Safety precautions for avoiding damage resulting from hot work are based on the analysis and assessment of risks.

#### **Hot work permit**

A hot work permit is a written license that entitles its holder to perform hot work at a temporary hot work location. Before a hot work permit is granted, an analysis and assessment of risks associated with hot work is carried out and the necessary safety precautions are put in place.

#### **Hot work safety examination**

An examination approved by the Finnish National Rescue Association to ensure that the person performing the hot work and the person granting the hot work permit have sufficient knowledge of hot work safety.

#### **Roof insulation and water-proofing hot work safety examination**

An examination approved by the Finnish National Rescue Association to ensure that the person performing the roof insulation and water-proofing hot work and the person granting the hot work permit have sufficient knowledge of roof insulation and water-proofing hot work safety.

#### **Hot work licence**

A hot work licence is a temporary certificate for passing the hot work safety examination.

#### **Roof insulation and water-proofing hot work licence**

The roof insulation and waterproofing hot work licence is a temporary certificate for passing the roof insulation and waterproofing hot work safety examination.

## **3 Hot work plan**

The policyholder must have a written hot work plan. If hot work is performed by an external contractor, the policyholder must ensure that the contractor has a written hot work plan. In this case, the policyholder may also use the plan drawn up by a contractor.

The hot work plan must include at least the following:

- the name of the person in charge of hot work safety, who maintains the hot work plan and sees to it that the orders of these safety guidelines can be implemented in practice;
- the names of the people with the permission to grant hot work permits;
- the names of the people with the permission to perform hot work;
- the availability of shielding materials and emergency extinguishing equipment necessary for hot work and the organisation of the hot work fire watch;
- elements influencing the hot work safety arising from the policyholder's production, premises, environment

and other similar factors that need to be considered in addition to the issues presented in these safety guidelines;

- permanent hot work locations.

## **4 Hot work**

### **4.1 Hot work with minor fire hazard**

Hot work with minor fire hazard can include electric soldering and the use of hot air (less than 200°C) in circumstances where the risk of ignition and spread of fire is small during the entire duration of the work.

The employee must evaluate the fire hazard and consider the work method, the flammability of the material used and evaluate his/her ability to detect and extinguish any initial fire. If the employee is not certain that the risk of fire is minor, or that the work can be performed without a fire hazard, the work may not be classified as hot work with minor fire hazard.

The employee must take care of the safety precautions required by the work method, the site and the environment, such as ensuring tidiness, order and the availability of emergency extinguishing equipment when performing hot work with minor fire hazard.

A hot work permit or a hot work licence for the person performing the work is not required for work with minor fire hazard.

### **4.2 Hot work at a permanent hot work location**

Whenever possible, hot work must be undertaken at a permanent hot work location. Safety measures required by the work method, the site and the environment must be taken into consideration when performing hot work at a permanent hot work location. A hot work permit or a hot work licence for the person performing the work is not required for hot work at a permanent hot work location.

The standards for a permanent hot work location are as follows:

- the structures of the hot work location must be fire-proof or covered with fire-resistant material if the structures are combustible;
- the structures and protective covers of the hot work location must be tight enough to prevent sparks and splashes generated during hot work from escaping the work location or entering the structures;
- the hot work location must have at least two handheld extinguishers with a 43A 183BC rating, one of which may be replaced with an emergency hydrant, or two handheld extinguishers with a 27A 144BC rating;
- the hot work location may contain no unnecessary flammable materials;
- no flammable liquids may be handled or stored in the hot work location, and the hot work location must not be adjoined to any area that may contain combustible gases;
- The requirements concerning temporary hot work locations must be met at a permanent hot work location as well, if the object of hot work substantially increases the fire hazard.

### 4.3 Hot work at a temporary hot work location

Hot work may only be performed at a temporary hot work location if it cannot be performed at a permanent hot work location.

At a temporary hot work location, hot work may only be performed by a person who has a valid hot work licence. A written, fixed-term hot work permit is always required when performing hot work at a temporary hot work location.

#### 4.3.1 Hot work permit

Before granting the hot work permit, an analysis and assessment of risks associated with hot work must be performed at the hot work location.

The person granting the hot work permit must, in the hot work permit, determine the safety precautions necessary based on the analysis and assessment of risks associated with hot work. Hot work may not be started until the person performing the hot work and the hot work fire watchman have ensured that the security precautions specified in the hot work permit have been implemented. The hot work permit must specify the name of the person granting the hot work permit, the names of the people performing the hot work and the names of the hot work fire watchmen.

The person granting the hot work permit shall prepare at least four copies of the hot work permit, one of which is to be delivered to the policyholder. Before starting the hot work, the person granting the hot work permit must give one copy to the person performing the hot work, one to the hot work fire watchman on duty during the hot work and one to the hot work fire watchman on duty after the completion of hot work.

All people performing the hot work, as well as the hot work fire watchmen, must be informed of the security precautions prescribed in the hot work permit.

The person granting the hot work permit must have a valid hot-work licence.

The hot work permit can be granted by the person specified in the policyholder's hot work plan who is best qualified to analyse and assess the risks associated with hot work and to determine appropriate safety precautions based on personal experience and knowledge of the worksite.

If the policyholder is not best qualified to grant the hot work permit, the hot work permit can be granted by the person specified in the contractor's hot work plan, who may be the person with a valid hot work licence who performs the hot work.

A hot work permit can only be granted for a fixed term. The hot work permit is specific to the hot work location and only the hot work specified in the permit is allowed to be carried out at the hot work location. If the conditions of the hot work location change during the validity of the hot work permit, the person granting the hot work permit must update the hot work permit to match the new conditions.

#### 4.3.2 Safety precautions at a temporary hot work location

The safety precautions prescribed based on the analysis and assessment of risks associated with hot work must be implemented at the temporary hot work location. The fol-

lowing are minimum standards for safety precautions at a temporary hot work location:

- the hot work location must be kept clear of flammable materials;
- any flammable materials that cannot be removed must be tightly protected with a fire-proof cover;
- accessories and equipment (e.g., cables) at the hot work location must be protected with covers;
- any openings in the structures must be protected with covers and any gaps must be sealed;
- any flammable surfaces in the structures must be protected with covers;
- sparks and splashes must be prevented from escaping into the environment and the conduction of heat into the structures must be prevented;
- the gas content in the working space must be measured when necessary, and if necessary, the space must be ventilated;
- any fire alarms and extinguishing systems based on smoke detection in the area where the smoke from hot work could spread must be switched off to prevent false alarms, and they must be switched back on as soon as the work has stopped;
- sprinkler systems must not be switched off, but, if necessary, the sprinkler nozzles can be covered with a temporary cover, which is to be removed immediately after the completion of hot work;
- fire extinguishing equipment must be present.

#### 4.3.3 Fire extinguishing equipment

The hot work permit specifies the fire extinguishing equipment required at a temporary hot work location, which must include at least two handheld extinguishers with a 43A 183BC rating. One of the handheld extinguishers may be replaced with an emergency hydrant or two handheld extinguishers with a 27A 144BC rating.

The fire extinguishing equipment must remain in the hot work location throughout the entire duration of the hot work, and also during the fire watch afterwards.

#### 4.3.4 Hot work fire watch

The hot work fire watch must be ordered based on the analysis and assessment of risks associated with hot work.

The hot work fire watch must continue throughout the entire hot work process, including breaks. When the hot work has been completed, the hot work fire watch must be continued in accordance with the hot work permit, for at least one hour. The hot work plan must specify how the hot work fire watch is arranged. The person performing the hot work cannot work as the hot work fire watchman on duty during the work.

During the hot work fire watch, the hot work location and any adjacent areas must be monitored without interruption.

The hot work fire watchman must know the risks associated with hot work and know how to make an emergency call and use the emergency extinguishing equipment provided at the hot work location. If necessary, the hot work fire watchman must interrupt the hot work.

## 5 Roof insulation and waterproofing hot work

Roof insulation and waterproofing hot work may only be performed by a person who has a valid roof insulation and waterproofing hot work licence.

### 5.1 Roof insulation and waterproofing hot work permit

A written, fixed-term hot work permit is always required when performing roof insulation and waterproofing hot work.

Before the hot work permit is granted, an analysis and assessment of risks associated with hot work must be performed at the hot work location. In the analysis and assessment of risks, special attention must be paid to risks caused by structures and cavities under the site.

The person granting the hot work permit must, in the hot work permit, determine the safety precautions necessary based on the analysis and assessment of risks associated with hot work. Hot work may not be started until the person performing the hot work and the hot work fire watchman have ensured that the security precautions specified in the hot work permit have been implemented. The hot work permit must specify the name of the person granting the hot work permit, the names of the people performing the hot work and the names of the hot work fire watchmen.

The person granting the hot work permit shall prepare at least four copies of the hot work permit, one of which is delivered to the policyholder. Before starting the hot work, the person granting the hot work permit must give one copy to the person performing the hot work, one to the hot work fire watchman on duty during hot work and one to the hot work fire watchman on duty after the completion of hot work.

All people performing the hot work, as well as the hot work fire watchmen, must be informed of the security precautions prescribed in the hot work permit.

The person granting the hot work permit must have a valid roof insulation and waterproofing hot work licence. The hot work permit can be granted by the person specified in the policyholder's hot work plan, who is best qualified to analyse and assess the risks associated with roof insulation and waterproofing hot work and to determine appropriate safety precautions based on personal experience and knowledge of the worksite.

If the policyholder is not best qualified to grant the hot work permit, the hot work permit can be granted by an expert appointed by the policyholder or the person specified in the contractor's hot work plan.

The person performing roof insulation and waterproofing hot work cannot be the person who has granted the hot work permit.

A hot work permit can only be granted for a fixed term. The hot work permit is specific to the hot work location and only the hot work specified in the permit is allowed to be carried out at the hot work location. If the conditions of the hot work location change during the validity of the hot work per-

mit, the person granting the hot work permit must update the hot work permit to take account of the new conditions.

### 5.2 Work method selection

Hot work must be replaced with a work method that does not involve a fire hazard when the structures to be insulated are flammable and the structures contain cavities and cannot be inspected and monitored.

The water-proofing material must not be attached over cappings or metal structures in such a way that the point of attachment is heated.

Neither naked flames nor hot air may be used near an opening, a lead-through or at the junction of horizontal and vertical structures if it is possible that the naked flame or hot air could penetrate the structure.

### 5.3 Safety precautions at a roof insulation and waterproofing hot work location

The safety precautions ordered based on the analysis and assessment of risks associated with hot work must be implemented at the hot work location, including the following minimum standards:

- any unnecessary flammable materials must be removed from the hot work location;
- any flammable materials that cannot be removed must be tightly protected with a fire-proof cover;
- any openings in the structures must be protected with covers and any gaps must be sealed if a flame, splash or spark could spread into the structures through them;
- any fire alarms and extinguishing systems based on smoke detection in the area where the smoke from hot work could spread must be switched off to prevent false alarms, and they must be switched back on as soon as the work is stopped;
- sprinkler systems must not be switched off, but, if necessary, the sprinkler nozzles can be covered with a temporary cover, which is to be removed immediately after the completion of hot work;
- fire extinguishing and clearance equipment must be present.

### 5.4 Fire extinguishing and clearance equipment and shielding materials

The hot work permit specifies the fire extinguishing equipment required at a roof insulation and waterproofing site, which must include at least two handheld extinguishers with a 43A 183BC rating. One of the handheld extinguishers may be replaced with a pressurized fire hose or two handheld extinguishers with a 27A 144BC rating.

The fire extinguishing equipment must remain in the hot work location throughout the entire duration of the hot work, and also during the fire watch afterwards.

A roof insulation hot work site must have fire-proof shielding materials and clearance equipment that can be used for making an opening in the roof for extinguishing in case of a fire.

### **5.5 Roof insulation and water-proofing hot work fire watch**

The required hot work fire watch must be ordered based on the analysis and assessment of risks associated with roof insulation hot work. A hot work fire watchman must always be used during hot work and after the completion of work when the structures to be insulated or adjacent structures are flammable or contain cavities.

The hot work fire watchman must monitor the hot work location, its environment and any substructures without interruption. If necessary, multiple hot work fire

watchmen must be appointed. The hot work fire watch must continue throughout the entire hot work process, including breaks. When the hot work has been completed, the fire watch must be continued in accordance with the hot work permit, for at least an hour.

The hot work fire watchman must know the risks associated with hot work, know how to make an emergency call and know how to use the emergency extinguishing equipment provided at the hot work location. If necessary, the hot work fire watchman must interrupt the hot work.

Customer service

01019 5101

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**TAPIOLA**

**Tapiola General Mutual Insurance Company**

Postal Address: FIN-02010 TAPIOLA

Business ID: 0211034-2 Domicile: Espoo