

## Risk assessment for work equipment according to AFS 2006:4

Work equipment means machinery, devices, tools or installations used in the work.

Examples of activities involving work equipment include starting and stopping, use, transport, assembly, installation, repair, dismantling, modification, servicing, cleaning and maintenance.

### 1. Information

Institution:

Dept.:

Date:

Equipment:

Model:

Serial no.:

Year of manufacture:

Manufacturer's name and address:

Participants:

\_\_\_\_\_

Action has been taken in respect of the deficiencies noted under actions in the check list and the equipment is thus deemed to meet the minimum requirements of AFS 2006:4 Use of Work Equipment.

Miningtown, 16 August 2017

Responsible for risk assessment

Print name:

## Requirements of the equipment

	Yes	No	Not applicable	Remarks	Done
<b>2.1 Strength and stability</b>					
Does the equipment have sufficient strength/stability?					
<b>2.2 Ergonomics</b>					
Can the work be performed in appropriate work positions and using suitable work movements?					
<b>2.3 Control devices</b>					
Visible?					
Identifiable?					
Correctly marked?					
Placed outside the risk area (if possible)?					
Have the risks of accidental manoeuvres been considered?					
Are there any obstacles to manoeuvres being made in the right way (if they are required to be performed in a particular way for safety reasons)?					
Can the operator see whether there is anyone in the risk area, or is there a warning system?					
Is the control system secure?					
Is the control system secure for those units that can be stopped separately?					
<b>2.4 Choice of control method</b>					
Are there safety devices for both manual and automatic operation?					
Are safety devices activated automatically when switching to manual operation?					
<b>2.5 Start/restart/control</b>					
Can this only be done by means of a deliberate action using the intended control device (for restarts and significant changes in function, e.g. speed and pressure, only if a risk exists)?					
<b>2.6 Stopping</b>					
Can the machine be safely stopped?					

Does each workstation have control devices capable of stopping all or parts of the work equipment?					
Does the stop device have priority over the start device?					
Is the power supply cut off when the work equipment has been stopped?					
Does power remain supplied to the control and driving devices so that further risks do not arise and rescue in the event of an accident is not obstructed?					
<b>2.7 Emergency stop</b>					
Is there an emergency stop (if justified in view of risks and normal stopping times)?					
Are functions that could involve a risk of illness or accident stopped quickly?					
Does a restart have to be performed manually?					
Can functions that are needed in an emergency still be operated?					
Does the emergency stop stay in the activated position?					
Is the emergency stop marked and correctly positioned?					
<b>2.8 Set-up/programming</b>					
Can this be done safely while running (if there is a need to)?					
Can existing safety devices be connected?					
<b>2.9 Falling objects/ejection/emissions</b>					
Is there appropriate protective equipment to prevent the risk of falling objects or of something being ejected?					
<b>2.10 Extraction and enclosure</b>					
Does the design provide protection from emissions of gas, dust, fluid, steam, microorganisms or other substances?					

	Yes	No	Not applicable	Remarks	Done
<b>2.11 Clamping</b>					
Is the work equipment clamped or otherwise stabilised?					
<b>2.12 Material failure</b>					
Are there appropriate safety measures to prevent risks in the event of bursting or breaking?					
<b>2.13 Protection and safety devices</b>					
Is there an appropriate safety device that prevents contact?					
Is protection that is easy to open or remove interlocked (prevents start/operation without protection)?					
Is restarting prevented when the protection is off?					
Is the protection robustly designed?					
Has it been ensured that the protection does not bring about new risks?					
Is it clear that the protection cannot be disabled easily?					
Has the protection been placed at an adequate distance from the protected area?					
Has it been ensured that the protection does not obscure the view of the equipment's operations?					
Does the protection allow the necessary intervention in order to install or replace parts and for maintenance work, if possible without the safety device having to be removed?					
Two-handed control device?					
Can the object be started only if both devices are activated?					
Does the object stop if one of the devices is released?					
Has it been ensured that the object cannot be started again until both devices are released and reactivated?					
<b>2.14 Adjustable protection</b>					
Is there adjustable protection for machine tools that cannot be kept inaccessible during use?					

	Yes	No	Not applicable	Remarks	Done
<b>2.15 Blocking protection for start function</b>					
Is protection that starts the machine when it has been shut down designed such that it is not possible to have body parts within the safety zone?					
<b>2.16 Contactless safety devices</b>					
Are dangerous functions interrupted or prevented from starting when a body part is within the safety zone?					
Does the protective function remain in the event of a fault in a component in the control system's protective circuit and prevent restarting?					
Can a restart only be carried out after a special reset device has been activated manually?					
<b>2.17 Cylinder operation</b>					
Is the point of operation protected?					
<b>2.18 Lighting</b>					
a) Is the lighting suitable for work and maintenance?					
<b>2.19 High or low temperature</b>					
Are parts with a high or very low temperature protected from being touched?					
<b>2.20 Warning systems</b>					
Are the warning systems clear and easy to find and understand?					
<b>2.21 Maintenance</b>					
Can appropriate measures be taken if maintenance work has to take place during operation?					
Can the work be moved outside the risk area?					
Are any maintenance logs up to date?					

	Yes	No	Not applicable	Remarks	Done
<b>2.22 Disconnection of power supply</b>					
Is a device for disconnecting all power supply easily identifiable?					
Can reconnection take place without any safety risks?					
Can the device be locked?					
<b>2.23 Marking, signs and warning devices</b>					
Are there signs and other warning devices as required for safety?					
Are they written in Swedish?					
<b>2.24 Access routes and work areas</b>					
Are the access routes safe?					
Is it possible to be safely within the areas for production, adjustment and maintenance work?					
Have slipping, stumbling and falling risks been considered?					
Can parts that must be lifted up or folded down be locked?					
<b>2.25 Fire risk and emissions</b>					
Is the design such that there is no risk of the equipment catching fire or overheating?					
Does the design provide protection from emissions of gas, dust, fluid, steam, microorganisms or other substances?					
<b>2.26 Explosion risk</b>					
Has work equipment been designed so as to prevent the risk of explosion?					
Is this also the case for the substances produced, used in operation or stored in it?					
<b>2.27 Electrical risks</b>					
Are persons in the risk area protected from the risk of coming directly in contact with electricity/electrostatic phenomena?					

**Mobile work equipment, both self-propelled and non-self-propelled**

	Yes	No	Not applicable	Remarks	Done
<b>3.1 Ride-on workers</b>					
Have the risks to ride-on workers been considered (including contact with wheels or getting caught in tracks)					
<b>3.2 Persons in the immediate vicinity of mobile work equipment</b>					
Is there equipment that limits the risks for those in the vicinity of the work equipment?					
<b>3.3 Driver's cab</b>					
Is the air exchange satisfactory?					
Are there arrangements for bringing about a suitable temperature?					
Is the air intake positioned such that exhaust fumes are not introduced into the cab?					
<b>3.4 Trailers</b>					
Is there a lock?					
<b>3.5 Power limitation on work equipment that is connected to or towed by mobile work equipment</b>					
Is there a device that interrupts or limits the power transferred in the event of getting stuck or blockage?					
<b>3.6 Transmission shaft</b>					
Is the transmission shaft designed for the load, revs, angles and lengths for which it is used?					
Can it be securely locked at the power take-off and power intake?					
Is there a device for suspending or anchoring it so that it does not drag along the ground?					
Is there protection throughout the length of the axle, universal joints and kingpins?					
Has it been ensured that the protection cannot rotate?					
<b>3.7 Tipping</b>					
Designed to prevent the work equipment from tipping more than a quarter revolution? Or:					
Designed to provide sufficient space around those riding on? Or:					
Some other arrangement that has the same effect?					

	Yes	No	Not applicable	Remarks	Done
Facility to strap oneself in (if there is a risk of being crushed against the ground if it were to flip)?					
<b>3.8 Self-propelled work equipment</b>					
Are unauthorised persons prevented from starting the equipment?					
Are there arrangements to limit the consequences of a collision when multiple work equipment on rails is simultaneously in motion?					
Are there braking and stopping devices?					
Is there an emergency stop (if needed) or automatic systems that brake or stop the equipment in the event of a fault?					
Is visibility sufficient, or is auxiliary equipment required?					
Is there lighting (if needed)?					
Is there suitable fire-fighting equipment (if fire risk)?					
Is fire-fighting equipment positioned appropriately?					
Does remote-controlled equipment stop when it moves beyond the range of the remote control?					
Is there equipment to prevent impact or crushing when operating remote-controlled equipment?					
Is stopped equipment secured from accidental movement?					
Is there a signalling device?					

**Pallet racks and other storage racks**

	Yes	No	Not applicable	Remarks	Done
Is the max. load per section marked?					
Is the max. load per bearing plane marked?					
Is there collision protection?					
Is the pallet rack anchored?					
Is there push-through protection? (unless manifestly unnecessary)					

EXAMPLE

### Transporters

	Yes	No	Not applicable	Remarks	Done
Tilt incline does not result in load slippage?					
Is there a brake that stops it or a backstop (if speed may increase or direction of travel change as a result of the force of the load when driving power ceases)					

### General requirements

	Yes	No	Not applicable	Remarks	Done
<b>6.1 Assembly, installation, dismantling, servicing, maintenance, cleaning and inspection</b>					
Are the manufacturer's instructions noted?					
Are written instructions required?					
Has a responsible coordinator been nominated?					
Is all energy supply disconnected?					
Does the disconnecting device need to be locked?					
Is accumulated energy discharged?					
Are signs needed?					
<b>6.2 Adjustment of safety devices</b>					
Are adjustable safety devices correctly set and secured?					

	Yes	No	Not applicable	Remarks	Done
<b>6.3 Malfunctions</b>					
Is the equipment safely stopped or otherwise made safe when dealing with malfunctions?					
<b>6.4 Deactivated safety devices</b>					
Can work that requires a safety device to be temporarily deactivated be carried out safely?					
Is the safety device reset immediately after the work is complete?					
<b>6.5 Lightning strike</b>					
Is equipment that may give rise to risks because of lightning strike protected so that this does not result in personal injury?					

### Use of mobile work equipment

	Yes	No	Not applicable	Remarks	Done
<b>7.1 Driver</b>					
Does the driver have sufficient knowledge?					
<b>7.2 Traffic rules</b>					
Have traffic rules been established?					
<b>7.3 Working on foot</b>					
Are there barriers preventing unauthorised persons from accessing the work area?					
Have measures been taken to minimise the risk of damage if manual work has to be undertaken within the work area?					
<b>7.4 Passenger transport</b>					
Are there suitable arrangements for transporting passengers?					
Is the speed adapted if work has to be carried out while in motion?					
<b>7.5 Air exchange</b>					
Is the air exchange adequate for health and safety? (exhaust fumes)					
<b>7.6 External factors</b>					

	Yes	No	Not applicable	Remarks	Done
Has the work been planned taking into consideration the potential risks of the terrain and weather conditions?					
<b>7.7 Securing against accidental movement</b>					
Are machine parts secured (if there is a risk of accidental movement)?					

### Additional requirements when using grinding machines

	Yes	No	Not applicable	Remarks	Done
<b>8.1 Test driving</b>					
Is the machine test-driven at the highest revs that will be used during the work after the grinding tool has been fitted?					

### Additional requirements when working on wheels and tyres

	Yes	No	Not applicable	Remarks	Done
<b>9.1 Inflation</b>					
Are tyres inflated in a place or in a safety device that diverts the airblast and retains projected debris?					

### Use of work equipment intended for temporary work at a height

	Yes	No	Not applicable	Remarks	Done
<b>10.1 Choice of work equipment</b>					
Is the work equipment used that which best guarantees and maintains safe working conditions?					
Are collective safeguards prioritised over personal protective equipment?					
Is the work equipment dimensioned and designed for the work?					
Has the site been adapted to the frequency of passage, height and how long the work is to go on for?					
Can the site be evacuated safely?					
Has safety when moving to platforms, decks or gangways been considered?					
<b>10.2 Rope work</b>					
Are ropes used only when a risk assessment has shown that the work can be performed safely and the use of safer work equipment is not possible or justified?					
Is there a seat for the worker? (for reasons of long duration, risk assessment, ergonomic constraints)					
<b>10.3 Measures to minimise risk</b>					
Is a fall protection system required?					
Has the protection system been correctly executed and is it of the correct strength?					
Are there collective safeguards everywhere except at points of ladder or stairway access?					
<b>10.4 Temporary measures</b>					
Are other fall protection measures taken on those occasions where it is temporarily necessary to remove collective safeguards?					
Are there routines for reinstalling collective safeguards?					
<b>10.5 Weather conditions</b>					
Are the weather conditions taken into consideration?					

	Yes	No	Not applicable	Remarks	Done
Is there suitable lighting if needed?					
<b>10.6 Specific provisions concerning the use of ropes for access, positioning and carrying out work (rope work)</b>					
Are at least two independently anchored ropes (work rope and security rope) used? Not applicable to rescue operations.					
Is a harness used that is connected to both ropes?					
Does the work rope have a device for safe access and safe descent?					
Is there a self-locking system in the event of falling?					
Is there a mobile fall protection system which follows the movements of the worker?					
Are tools and other equipment secured to the worker's harness or in another appropriate way?					
Is an additional person present during the work?					
Have personnel received specific training for the work (rescue procedures)?					
Is a helmet with a chin strap used?					
Is other personal protective equipment required?					