

1. Mechanical danger	1.1 Unprotected moving machine parts	1.2 Parts with dangerous surface	1.3 Moving means of transport, work equipment	1.4 Uncontrolled moving parts	1.5 Fall on the level Slipping, tripping, twisting, misstep	1.6 Crash	1.7 Mechanical strength, fracture, collapse
2. Electrical hazard	2.1 Danger from electrical system components	2.2 Arc	2.3 Electrostatic charging	2.4 Electromagnetic fields			
3. Hazardous substances	3.1 Gases	3.2 Vapors	3.3 Suspended particles (fog, smoke, dust), particles	3.4 Liquid	3.5 Solids	3.6 Substances that are work process arise/be released	3.7 General
4. Fire and/or risk of explosion	4.1 Fire hazard by solids, liquid, gases	4.2 Explosion hazard by dust, vapors, gases	4.3 Ignition sources in fire or risk of explosion	4.4 Oxidizing fabrics	4.5 Explosives	4.6 General	
5. Thermal danger	5.1 Contact with hot media	5.2 Contact with cold media					
6. Biological danger	6.1 Risk of infection by microorganisms, viruses	6.2 Genetically engineered modified organisms	6.3 Allergens, toxic Fabrics from microorganisms	6.4 General			
7. Physical influence	7.1 Noise	7.2 Ultrasound	7.3 Whole-body vibration	7.4 Hand/arm vibration	7.5 Non-ionizing radiation (UV, IR, laser)	7.6 Ionizing radiation	7.7 Electromagnetic fields
8. Stress caused by work environment	8.1 Climate (temperature, humidity, draft)	8.2 Lighting (illuminance, glare, reflection)	8.3 Ventilation (air exchange)	8.4 Space requirements / traffic routes			
9. Physical stress / work environment	9.1 Heavy dynamic Work	9.2 Unilateral dynamic Work	9.3 Posture work / holding work	9.4 Working in confined spaces rooms or containers	9.5 Ergonomic design flaws	9.6 General	
10. Perception and manageability of work equipment	10.1 Information intake	10.2 Scope of perception	10.3 Complicated manageability of work equipment				
11. Work equipment	11.1 Risk of work equipment among themselves	11.2 Influencing work equipment and hazardous substances between each other	11.3 Influencing work equipment on environment or working materials	11.4 Additional testing of work equipment necessary			
12. Psychological stress	12.1 Work content / work task	12.2 Work organization	12.3 Social Conditions	12.4 Working environment	12.5 New forms of work	12.6 General	
13. Organization	13.1 Workflow	13.2 Working hours	13.3 Qualification	13.4 Necessary PPE	13.5 Necessary occupational health precaution	13.6 Responsibility	13.7 Failure to perform instruction
14. Further hazards	14.1 Interaction with PSA	14.2 Skin stress	14.3 Through people	14.4 Pressure vessels	14.5 Danger from Animals	14.6 Working environment	14.7 Being buried / sinking / drowning
15. Dangerous activities	15.1 Restricted spaces	15.2 Maintenance	15.3 Setup	15.4 Raised work surfaces	15.5 Third- party companies	15.6 Implementation of exams	15.7 Hazards acc. Maternity Protection Act

## ASO Plus risk matrix

probability of occurrence	6	Very high - happens often	6A	6B	6C	6D	6E
	5	High - has happened several times in our company	5A	5B	5C	5D	5E
	4	Medium - has already happened in our company	4A	4B	4C	4D	4E
	3	Can happen - has already happened in the industry	3A	3B	3C	3D	3E
	2	Small amount	2A	2B	2C	2D	2E
	1	Unimaginable	1A	1B	1C	1D	1E
			No injury	injury without health consequences	Injury with minor health consequences (no day off work)	Injury / illness with moderate health consequences (with day off)	Injury / illness with major health consequences (long-term absence, long-term effects, death)
			A	B	C	D	E
			extent of the damage				

Stop the process. Initiate and check corrective measures.

Continue the process with increased attention. Define, implement and review measures.

Check the process at regular intervals. Determine and implement measures.

1.1 Unprotected moving machine parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Risk of crushing due to unexpected repair of the machine.	prevention of injuries by moving machine parts	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> Work on the machine may only be carried out by trained specialist personnel.			ArbSchG, BetrSichV	Selection  Remark:	%		

  

1.1 Unprotected moving machine parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Risk of crushing due to unexpected repair of the machine.	prevention of injuries by moving machine parts	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> The keys of the key switches must only be accessible to authorized personnel. The keys must be removed after the machine has been switched off.			ArbSchG, BetrSichV	Selection  Remark:	%		

1.1 Unprotected moving machine parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Risk of crushing due to unexpected repair of the machine.	prevention of injuries by moving machine parts	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> The passwords for operation must only be known to authorized personnel and must be kept secret.			ArbSchG, BetrSichV	Selection Remark:	%		

  

1.1 Unprotected moving machine parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Risk of crushing due to unexpected repair of the machine.	prevention of injuries by moving machine parts	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> Working with the joystick on the handheld control device may cause unwanted movements of the stamp. Setup may therefore only be carried out by qualified and trained personnel in accordance with BGI 551.			ArbSchG, BetrSichV	Selection Remark:	%		

1.1 Unprotected moving machine parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Risk of crushing due to unexpected repair of the machine.	prevention of injuries by moving machine parts	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Personal measure:</b> When inserting workpieces, during setup and during When changing tools (protective door open), no other person may be in the Stay in the two-handed operation area.			ArbSchG, BetrSichV	Selection  Remark:	%		
1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
cut / Puncture wound caused by work with sharp edges / points work materials.	Avoidance of cutting / stab wounds sharp edges / points work materials.	3C	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> Conducting the instruction: Handling sharp-edged / pointed work materials			ArbSchG, BetrSichV	Selection  Remark:	%		

1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
cut / Puncture wound caused by work with sharp edges / points work materials.	Avoidance of cutting / stab wounds sharp edges / points work materials.	3C	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: The employees act as instructed in the training.			ArbSchG, BetrSichV	Selection  Remark:	%		
1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from assembly the machine.	prevention of injuries during loading of the machine	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Carrying out the instruction: Loading the machine			ArbSchG, BetrSichV	Selection  Remark:	%		

1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from assembly the machine.	prevention of injuries during loading of the machine	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: The employer provides suitable PPE (gloves)			ArbSchG, BetrSichV	Selection  Remark:	%		

1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from assembly the machine.	prevention of injuries during loading of the machine	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: The employees act as instructed in the training.			ArbSchG, BetrSichV	Selection  Remark:	%		

1.2 Parts with dangerous surfaces							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from assembly the machine.	prevention of injuries during loading of the machine	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: Employees wear the PPE provided by the employer.			ArbSchG, BetrSichV	Selection Remark:	%		
1.4 Uncontrolled moving parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from falling or tipping over parts.	Falling or tipping over of the Avoid parts. Employees instruct.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Carrying out the instruction: Stability Parts are stabilized, center of gravity is positioned low. Stability is ensured, stacking heights are maintained.			ArbSchG, BetrSichV, TRBS	Selection Remark:	%		



1.4 Uncontrolled moving parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from falling or tipping over parts.	Falling or tipping over of the Avoid parts. Employees instruct.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: No parts are stored on the platform of the control cabinet.			ArbSchG, BetrSichV, TRBS	Selection Remark:	%		

1.4 Uncontrolled moving parts							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from falling or tipping over parts.	Falling or tipping over of the Avoid parts. Employees instruct.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: The employees act as instructed in the training.			ArbSchG, BetrSichV, TRBS	Selection Remark:	%		

1.5 Fall on the level Slipping, stumbling, twisting, misstep							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Slipping due to oil, water or material residues on the floor	Prevent injuries caused by employee slipping.	3D	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Carrying out the instruction: Order and cleanliness Installing non-slip mats.			ArbSchG, BetrSichV	Selection Remark:	%		

1.5 Fall on the level Slipping, stumbling, twisting, misstep							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Slipping due to oil, water or material residues on the floor	Prevent injuries caused by employee slipping.	3D	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: The employees act as instructed in the training.			ArbSchG, BetrSichV	Selection Remark:	%		

1.6 Crash							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from ladders.	Only use tested ladders.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Ladders are inspected at least once a year.			BetrSichV §3 (3) DGUV Information 208-016	Selection  Remark:	%		

2.1 Hazards from electrical system components							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from electrical Electricity due to non tested electrical work equipment.	Use of tested and safe machines and work equipment.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Test intervals are determined. The test is carried out.			ArbStättV DGUV Regulation 3	Selection  Remark:	%		

2.1 Hazards from electrical system components							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Visible damage to electrical operating resources (e.g. damaged insulation, impermissible connectors or extension cables).	Avoid injury from electric current.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Personal measure: Report defects immediately. Stop work until these defects have been remedied by a qualified electrician.			ArbStättV DGUV Regulation 3	Selection  Remark:	%		

2.1 Hazards from electrical system components							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Contact with live parts in and on the control cabinet.	Avoid injuries caused by electric current.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Technical measure: The control cabinet is on a platform. The control cabinet is locked and can only be opened by trained persons.			ArbStättV DGUV Regulation 3	Selection  Remark:	%		

4.6 General							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Overheating of electrical components in the control cabinet.	Avoid fires caused by heating components in the control cabinet.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Technical measure: Regular inspection of the control cabinet.			TRBS, BetrSichV	Selection  Remark:	%		
7.1 Noise							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Increased noise exposure - danger of hearing damage caused by noise machine and environment.	Prevention of hearing damage through noise of the machine	2C	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Carrying out a noise measurement. When the lower trigger value is reached, the Employers must provide employees with suitable hearing protection. LEX, 8h = 80 dB(A).			BImSchG	Selection  Remark:	%		

7.1 Noise							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Increased noise exposure - danger of hearing damage caused by noise machine and environment.	Prevention of hearing damage caused by noise of the machine	2C	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Carrying out a noise measurement. When the upper trigger value is reached, the Noise areas are marked and, if technically possible, demarcated. For mobile Work equipment can be marked on the equipment. The employer must ensure that ensure that workers wear the hearing protection provided. LEX, 8h = 85 dB(A).			BlmSchG	Selection Remark:	%		

11.4 Additional testing of work equipment required							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from untested work equipment and machines.	Inspections of work equipment and machines. Creating directories and Determination of inspection intervals.	3E	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
Organizational measure: Listing of all work equipment. Carrying out the inspection on all work equipment that is subject to inspection. Determination of inspection intervals.			ArbSchG ProdSV BetrSichV § 2 (1) DGUV Regulation 3	Selection Remark:	%		

13.6 Responsibility							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
Danger from non Determination of a responsible person or superiors.	In the ASA meetings, responsible person or superiors and document.	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> The persons responsible for the respective areas have been determined.			ArbSchG § 13	Selection Remark:	%		

  

13.7 Failure to provide instruction							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
hazards to employees due to lack of knowledge Dangers on the equipment and the work environment.	training of employees based on the operating instructions, operating instructions and maintenance instructions.	<b>3E</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> Carrying out the instructions based on the operating instructions, operating manual and maintenance instructions.			ArbSchG §12 (1)	Selection Remark:	%		

15.2 Maintenance							
Description of the hazard / activity	Recommended protection goal	risk assessment before the measure	realization / responsible person	Until when	Effectiveness control / who?	Until when	Effectiveness control through
endangering employees due to lack of maintenance instructions.	Avoidance of maintenance instructions not being created.	<b>3D</b>	Selection		Selection		Selection
Related necessary measures			information	recurring measure	degree of fulfillment		risk assessment after the measure
<b>Organizational measure:</b> Create maintenance instructions.			BetrSichV TRBS 1112	Selection  Remark:	%		