



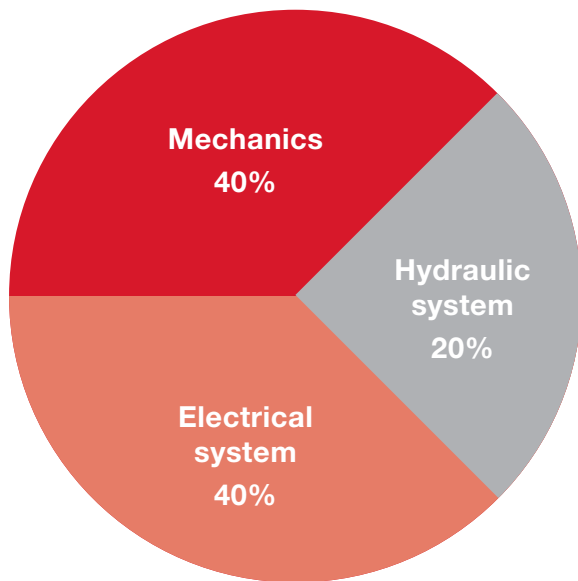
# Safety Inspection

**A regular and professional safety inspection has many benefits.** It increases workplace safety and provides your employees with better protection against accidents. It can also ensure that defects through wear or damages are detected early. This reduces the risk of malfunctions and downtimes caused by defective machines and also eliminates hazards for your employees.

## Your benefits

- ▶ Protection of employees and machines
- ▶ Complying with legal provisions
- ▶ Minimising unpredictable machine downtime risks
- ▶ Documented proof of condition for certification and quality assurance purposes
- ▶ Preventive repairs and machine downtimes can be scheduled
- ▶ Cost savings for repairs through proactive, early damage detection
- ▶ The case you make to your customers regarding complete maintenance and upkeep

## Design



## Overview of activities

### ► Mechanics

- General visual inspection of the machine
- Function control of the safety devices
- Checking the machinery ring and the machine covers

### ► Hydraulic system

- General visual inspection of the hydraulics system and hydraulic unit
- Visual inspection for leaks
- Checking the inspection in the danger zone
- Checking and documenting hydraulic hoses in the immediate danger zones

### ► Electrical system

- Check of the safety devices
- Thermal imaging of the control cabinet
- Electrical repeat tests of DGUV Regulation 3 according to EN60204-1 and DIN VDE 0113 regarding:
  - measuring the protective conductor resistance RPE
  - measuring the insulation resistance RISO
  - measuring the residual voltage U<sub>REST</sub> of L1, L2 and L3
  - testing and measuring the trip current and tripping time of the RCD
  - measuring the leakage current

### Legal safety guidelines

The following information is based on the compliance with the corresponding storage conditions and maintenance programmes taking into consideration accident prevention regulations (UVV).

Please note the continuous maintenance work according to the provisions detailed in the manual supplied with the plant which has to be performed by the operator.

### The legal requirements for the operator have to be observed:

Employers who provide work equipment to their employees have to perform a hazard assessment resulting from their obligations from different legal provisions, such as

- §§ 5 and 6 Working Conditions Act,
- § 3 of the Industrial Safety Regulation,
- § 3 3 of the accident prevention regulation "Basics of prevention" (DGUV Regulation 1)

This hazard assessment includes:

- a determination of the hazards faced during the work that is to be performed,
- their assessment and
- **the determination of measures to ensure the safety and the health protection of employees while at work.**

### This includes:

**1. Damaged safety-related components have to be replaced by the operator immediately.** These include:

- Machine covers
- Safety switches
- worn/fissured or hardened hydraulic hoses.

Please train your employees so that they can immediately report damage.

### 2. We note that the following assemblies have to be checked and/or replaced on a regular basis:

- |   |                    |
|---|--------------------|
| - Bubble memory test:                         | annually           |
| - Bubble memory visual inspection (interior): | every 10 years     |
| - Polycarbonate (Makrolon) replace            |                    |
| machine covers and disks:                     | every 6 years      |
| - Replace hydraulic hoses:                    | every 2 to 6 years |

The replacement interval refers to the DGUV Rule 113-020 (BGR 237) "Hydraulic hoses and hydraulic fluids – rules for a safe use".

In accordance with DGUV 113-020 (BGR 237) we can offer a certified hydraulic hose management as a service. We document hydraulic hoses and replace them on a regular basis. This is included in a safety inspection.

### 3. In addition, the operator is obligated to regularly check the electrical safety of its plant.

It is recommended to perform the repeat test of DGUV Regulation 3 according to EN60204-1 and DIN VDE 0113 at electrical systems and fixed operating equipment every four years.

This test ensures that no hazards can arise from electrical equipment.

The following electrical measurements are taken into account:

- measuring the protective conductor resistance  $R_{PE}$
- measuring the insulation resistance  $R_{ISO}$
- measuring the residual voltage  $U_{REST}$  of L1, L2 and L3
- testing and measuring the trip current and tripping time of the RCD
- measuring the leakage current

Subject to technical changes