

## When did you last inspect your safety light curtains?

Companies using light curtains to safeguard machinery often do not appreciate the implications of the regulatory requirement for inspections.

In the UK, the Provision and Use of Work Equipment Regulations 1998 (PUWER 98) state that safety-related equipment must be inspected to ensure it is 'suitable and sufficient' for the intended purpose and that any equipment that might degrade over time should be inspected regularly. In Australia, this requirement is implied by a number of clauses within the ACTS of every state. While safety light curtains may appear to be fit-and-forget devices, with no moving or contacting parts to wear, most suppliers state in their documentation that light curtains should be inspected regularly. In this context, 'regularly' is normally interpreted as 'annually'.

If a light curtain is not inspected and its performance has deteriorated, it could result in an unsafe situation arising. In extreme cases, this could lead to a major injury being sustained.

ESPE (electrosensitive protective equipment) certification involves an inspection to ensure that the light curtain cannot be defeated and that it is correctly positioned in relation to the mechanical hazards. Note that sometimes people refer to AOPD (active opto-electronic protective device) certification, which is the same as ESPE certification. A typical machine with a single safety light curtain would take about one hour to inspect and a little more time to complete the documentation. Further information about the requirements for ESPE assessments are contained in IEC 62046 (Technical Specification, Safety of machinery – Application of protective equipment to detect the presence of persons).

Inspections are relatively straightforward to perform, though the inspector must have the appropriate competence and use specialist equipment. First the height of the hazard window is checked, together with the size of the light guard and its type, to ensure the guard adequately covers the hazard window. Then a stop time performance monitor is mounted on the machine to measure accurately how long it takes for the moving parts to come to a standstill from the moment the light barrier is triggered. This figure is used to calculate the required distance between the hazard and the light guard as per BS EN 999:1999 (Safety of machinery, The positioning of protective equipment in respect of approach speeds of parts of the human body) - soon to be part of AS4024.1-2006.

Next the actual distance is measured so that it can be compared with the calculated figure to ensure the light guard is mounted in the correct position. The light guard is then checked to ensure it is correctly integrated within a suitable safety-related control system.

A written report is prepared for every machine inspected. Provided all the tests are passed satisfactorily, a label is applied to the machine to show that it is certified and that it is due for inspection again in 12 months' time.

Please contact Pilz to request more information about ESPE certification.

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