



Machine Guards

White Paper 2 CE Marking of Guards

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CE marking of machine guards to the Machinery Directive 2006/42/EC

Jeremy Procter, a Member of BSI's MCE/3 committee, former Convenor of the European Standards Committee responsible for Machine Guards (CEN TC114 WG11), and Managing Director of Procter Machine Guarding, explains the requirement to CE mark guards under the new Machinery Directive 2006/42/EC.

CE marking of machine guards to the Machinery Directive 2006/42/EC

Since the new Machinery Directive 2006/42/EC came into force on 29 December 2009, anyone specifying, designing, building, modifying or supplying machinery within the European Economic Area (plus Switzerland and Turkey) needs to be aware of the new requirements. An important change is that, under certain circumstances, machine guards must now be CE marked, whereas previously they were not - though a Declaration of Conformity was required.

What is a guard?

Before deciding whether or not a component or assembly needs to be CE marked as a guard, it is necessary to consider what is classified as a guard for the purposes of the Machinery Directive. Article 1 of the new Directive lists 'safety components' within the scope at item 1 (c) and Article 2, Definitions (item c), states that 'safety component' means a component:

- which serves to fulfil a safety function,
- which is independently placed on the market,
- the failure and/or malfunction of which endangers the safety of persons, and
- which is not necessary in order for the machinery to function, or for which normal components may be substituted in order for the machinery to function.

Furthermore, the new Directive's Annex V provides an indicative list of safety components. Item 7 in this list is: **'Guards and protective devices designed to protect persons against moving parts involved in the process on the machinery.'**

Additional clarification is provided in Annex I, the essential health and safety requirements relating to the design and construction of machinery, wherein item 1.1.1 (f) defines a guard as **'a part of the machinery used specifically to provide protection by means of a physical barrier.'**

At first sight, it may seem to be the case that machine guards must be CE marked, and that is the end of the matter. For a product such as a guard for retrofitting to a pillar drill, it is undoubtedly true that the guard will need to be CE marked. But looking at the Directive more closely reveals some exceptions and other points to be aware of.

Note that the definition of a safety component within the Machinery Directive includes components that perform a safety function, even if they are not designed primarily as a safety component. So, for example, a cover that is designed to prevent contamination of components on a conveyor might, coincidentally, serve to prevent an operator from accessing a pinch point. This cover should therefore be CE marked as a safety component if it is placed on the market independently. Annex I uses the word 'specifically' so it could be argued that components such as the conveyor cover are therefore excluded. However, BS EN 953:1997 +A1:2009 *Safety of machinery. Guards. General requirements for the design and construction of fixed and movable guards* defines a guard as a **'physical barrier, designed as part of a machine, to provide protection'** and, for all practical purposes, machine designers should use this definition. Interpreting the term 'specifically' from the Directive in order to relax the requirements relating to these parts of the machine would be incorrect, as they often do provide protection, if only as a secondary function. Indeed, the official guidance* states: *"Components placed independently on the market that are intended by the component manufacturer for functions that are both safety and operational functions, or that are intended by the component manufacturer to be used either for safety or for operational functions are to be considered as safety components."*

What needs to be CE marked?

Manufacturers of machine guards are faced with different situations in which they might be supplying guards to their own designs or those of their customers, and the requirement to CE mark the guards and/or supply a Declaration of Conformity (DoC) can vary accordingly. The following indicates the courses of action that Procter Machine Guarding will be following, and these have been established having sought advice from the Health and Safety Executive (HSE) and after consulting the European Commission's guidance.*

*Guide to application of the Machinery Directive 2006/42/EC, published by the European Commission

Scenario 1

Guards are designed, manufactured and supplied to an OEM who will supply them to the end user as part of a machine

Action: Issue a DoC and CE mark the guards as safety components. Inform installers that it is their responsibility to install the guards in accordance with the supplied instructions and layout drawings, otherwise the guards could be non-compliant.

Notes

This scenario includes bespoke guards and perimeter guards configured from standard modular components.

The guards will be designed, manufactured and installed in accordance with BS EN ISO 12100:2010, BS EN ISO 13857:2008, BS EN 953:1997+A1:2009 and any others that are applicable to the specific machine type.

Scenario 2

Guards are designed, manufactured, supplied and installed for either an OEM or an end user

Action: On completion of the site installation, the guards will be verified as having been installed in accordance with the applicable standards, a DoC will be issued and the guards CE marked as safety components.

Notes

This scenario includes bespoke guards and perimeter guards configured from standard modular components.

The guards will be designed, manufactured and installed in accordance with BS EN ISO 12100:2010, BS EN ISO 13857:2008, BS EN 953:1997+A1:2009 and any others that are applicable to the specific machine type.

Scenario 3

'Guards' are supplied to an OEM's or end user's designs and specifications

Action: Do not issue a DoC or CE mark the guards.

Notes

In this case the manufacturer is acting as a contracted supplier of fabricated components (the manufacturer is not 'independently placing' guards on the market). The customer takes responsibility for CE marking the guards or the overall machine including the guards.

Scenario 4

A customer requests 'guards' that do not meet the Essential Health and Safety Requirements of the Machinery Directive

Action: Do not CE mark the guards or issue a DoC. Advise the customer that in the manufacturer's opinion the guards do not meet all of the applicable Essential Health and Safety Requirements of the Machinery Directive or the applicable standards. Record in the project files the actions taken and the advice given, and retain the project files.

Notes

If the guards are manufactured to the customer's designs, then the guard manufacturer is simply acting as a contracted supplier of fabricated components.

Scenario 5

Guards supplied as 'identical spare parts' on existing machines

Action: Do not CE mark the guards or issue a DoC. Advise the customer that the guards are supplied for use only as spare parts on the specified machine.

Notes

Item 2 of Article 1 (Scope) lists exclusions from the Directive, and item 2 (a) excludes 'safety components intended to be used as spare parts to replace identical components and supplied by the manufacturer of the original machinery.' The same exclusion applies in cases where identical components are no longer available and the machinery manufacturer supplies spare parts with the same safety function and with the same safety performance as the components that were originally fitted to the machinery.

Scenario 6

Standard guards supplied for use with workshop tools such as lathes, milling machines and pillar drills

Action: Issue a DoC and CE mark the guards, but see the notes below.

Notes

If such guards are manufactured to comply fully with the standards, then the machine can become impossible to use. In such cases the guards can still be CE marked but the DoC should list the applicable Essential Health and Safety Requirements of the Machinery Directive instead of the standards. In addition, the limitations should be listed and instructions for use must be supplied, as well as installation instructions. References can be made to relevant HSE guidance notes.

Conclusion

Every machine is different, so every machine guard must be considered on its own merits. But given the high costs involved in CE marking guards retrospectively after they have been supplied and installed, it would be wise to take a cautious approach.

The foregoing has been prepared using the best information available at the time. However, it is possible that the interpretation of the new Machinery Directive will evolve once it is being applied, especially if there are any court cases relating to machine guarding.

Procter Machine Guarding is the UK's leading machinery guarding specialist, offering a comprehensive service to survey, design, manufacture and install machine guards nationwide, whether the requirement is for close-fitting guards, perimeter guards or a combination of both. With unrivalled knowledge of the applicable standards, as well as a deep understanding of the ergonomic issues relating to machine guarding, Procter can design guards that meet all the necessary safety standards, do not hinder production, and enhance the machine's aesthetics.

In addition to bespoke guards, the company supplies the Satech range of low-cost modular perimeter guards, the Angel modular perimeter guarding system, and the Nelsa range of standard machine shop guards.

To discuss any requirements for machine guarding, please email Procter Machine Guarding at machinesafety@procterbedwas.co.uk or telephone 02920 882222.

Published by

Procter Machine Guarding
Pantglas Industrial Estate
Bedwas
Caerphilly
CF83 8XD

Tel: 029 2088 2222
Fax: 029 2088 7005

Email: machinesafety@procterbedwas.co.uk
Website: www.machinesafety.co.uk

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