

Safety Warning Notice No 9

Remote or automatic activation of powered: vehicle doors, shop front shutters over pedestrian access, gates and traffic barriers

Introduction

Remote activation, or fully automatic control as it is alternatively referred to, is the highest risk means of providing activation to powered doors, gates and traffic barriers. The document that describes its use and resulting impact on necessary control measure for crush, impact, draw in, shearing and lifting hazards is EN 12453, first published in the UK in 2001 as BS EN 12453:2001.

Included devices and systems

Remote activation devices include a wide range of devices and systems capable of sending an activation signal to a powered door, gate or barrier causing it to either open or close without further human input or monitoring on site.

These devices and systems include:

1. automatic closing after a pre-set delay or dwell time, normally a programmable function of the control panel
2. hand-held radio activation devices that are capable of delivering signal to the system from a distance, and out of sight of the door, gate or barrier
3. intercoms and access control systems that incorporate remote activation, with or without voice, video or cctv link
4. mobile phone apps and GSM activation devices
5. IP and computer based remote activation systems
6. vehicle detection systems that send activation signals
7. movement sensors that send activation signals

Minimum level of safety

Such devices and systems require the highest level of safety which, according to EN 12453, will be:

1. force limitation (inherent or by safe edge) and supplementary photo beam(s) at the leading edge, described by EN 12453 as type C and D protection, or
2. EN 12978 compliant, non-contact presence detection systems that can prevent all possible contact with hazardous movement, described by EN 12453 as type E protection - commonly light grid or laser scanner technology, and

3. Resolution of hazards that were previously covered by EN 12453 'relaxed rules' for vertically acting domestic garage doors - these do not apply with remote or automatic activation - and include:

- draw-in hazards at roller doors
- crush, shear and draw-in hazards caused by side linkages etc on canopy and retractable doors

It must be understood that not all systems are capable of accommodating the increased levels of safety necessary for remote or automatic activation.

Residual hazard

Once the minimum level of safety is provided and tested to be compliant with EN 12453, the residual hazard on site must be assessed and controlled as appropriate. The actual residual hazards present vary depending on location, users and passers-by, and system type.

Vehicle protection is also a matter of residual hazard control as the minimum level of protection is only focussed on the protection of people. Some systems will require extensive residual hazard control whilst other, more secluded domestic environments, might not require any.

Residual hazard controls include:

- selection of non-contact presence detection over force imitation and photo beam
- providing even lower force than EN 12453 allows
- providing or revising user instructions
- flashing lights, audible warning devices and signage
- keep clear ground markings
- traffic lights and traffic calming measures
- pedestrian walkways and associated signage

Assessing and providing the required level of residual hazard control is the responsibility of the installing company, rather than the manufacturer.

Retrospective installation

Where automatic closing is enabled or remote activation devices are installed retrospectively, the person or company who makes the change is responsible for:

1. providing the increased minimum level of safety, and
2. for conducting the residual hazard assessment, and
3. providing the necessary residual hazard controls

The law

New powered systems must comply with the Machinery Directive (Supply of Machinery Safety Regulations in the UK). Compliance with the Directive involves achieving the state-of-the-art for the appropriate product group. Hence, failure to comply with EN 12453 is routinely interpreted by regulators and the courts to be in breach of the law.

New industrial doors and domestic garage doors must additionally comply with the Construction Products Regulation. Compliance with Annex ZA of EN 13241 (and hence EN 12453 by dated reference) is mandatory under the Regulation.

Existing systems in service are covered by various pieces of health and safety law depending on the location and local jurisdiction. The test for compliance is whether or not 'reasonable and practicable' measures are in place to provide safety.

Past criminal prosecutions in this environment have indicated that providing the levels of safety outlined in the current, product specific, British and European Standards is seen by the regulatory authorities to be both reasonable and practicable.

Further advice and guidance

DHF codes of practice (click on the appropriate product group):

<https://www.dhfonline.org.uk/publications/technical-specifications/1.htm>

DHF advice on Construction Products Regulation compliance:

<https://www.dhfonline.org.uk/publications/technical-specifications/1.htm>

HSE advice on ensuring safety:

<http://www.hse.gov.uk/work-equipment-machinery/power-gates/safety.htm>

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